GEOGRAPHY

STANDARD TEN








Flora and Founa of India and Brazil



Banyan



Macaw



Babul



Alligator



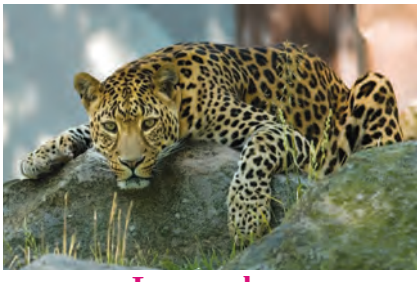
Sunderbans (Mangroves)



Crocodiles



Orchids



Leopard



Flamingo



Asiatic lion



Swamp deer



Puma



Rosewood

The Coordination Committee formed by GR No. Abhyas - 2116/(Pra.Kra.43/16) SD - 4
Dated 25.4.2016 has given approval to prescribe this textbook in its meeting held on 29.12.2017

GEOGRAPHY

STANDARD TEN

SE1MP7

The digital textbook can be obtained through DIKSHA App on a smartphone by using the Q.R. Code given on title page of the textbook and useful audio-visual teaching-learning material of the relevant lesson will be available through the Q.R. Code given in each lesson of this textbook.

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The Constitution of India

Preamble

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC and to secure to all its citizens:

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the unity and integrity of the Nation;

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.

NATIONAL ANTHEM

Jana-gana-mana-adhināyaka jaya hē
Bhārata-bhāgya-vidhātā,

Panjāba-Sindhu-Gujarāta-Marāthā
Drāvida-Utkala-Banga

Vindhya-Himāchala-Yamunā-Gangā
uchchala-jaladhi-taranga

Tava subha nāmē jāgē, tava subha āsisa māgē,
gāhē tava jaya-gāthā,

Jana-gana-mangala-dāyaka jaya hē
Bhārata-bhāgya-vidhātā,

Jaya hē, Jaya hē, Jaya hē,
Jaya jaya jaya, jaya hē.

PLEDGE

India is my country. All Indians are my brothers and sisters.

I love my country, and I am proud of its rich and varied heritage. I shall always strive to be worthy of it.

I shall give my parents, teachers and all elders respect, and treat everyone with courtesy.

To my country and my people, I pledge my devotion. In their well-being and prosperity alone lies my happiness.

Preface

Dear Friends,

Welcome to Class Ten. You have learnt Geography as a part of Environmental Studies from Class Three to Class Five and through the Geography textbooks of Class Six to Class Nine. It gives me immense pleasure to place the new textbook for Class X in your hands.

Many events occur around you. The engulfing nature keeps meeting you in the form of sunlight, rainfall and winter. The breeze is so pleasing to your body. You understand the explanations of such natural events through geography. Geography always tries to take you towards nature. In geography, the relationship between biotic factors and environment and interactions between various factors are studied.

You have already learnt about various basic concepts related to earth. You have understood various elements related to your daily life through this subject. You will surely benefit in the future. We have also studied about economic, social and cultural interactions in this subject.

Skills like observation, perception, critical thinking are important for this subject. Use them, nurture them . Maps, graphs, diagrams, informative boxes, tables, etc. are the means of studying this subject. Practice them to use them. An opportunity is given to you through this textbook.

The format of the textbook is such that it revises the concepts you have learnt till Class nine. During this revision, concepts learnt in earlier classes will be helpful to you. Don't forget them! A comparison of the characteristics of two countries- India and Brazil- has been presented in the textbook. You will certainly like it !

Your reviews are always taken positively. Please send them to us.

Heartiest Greetings to all of You !

Pune

Date : 18 March, 2018, Gudhipadva
Indian Solar Year :
27 Phalgun, 1939

(Dr Sunil Magar)
Director
Maharashtra State Bureau of Textbook
Production and Curriculum Research, Pune

Competencies

Sr. No	Fields	Components	Competencies
1.	General Geography	1.1 Location and extent	• Collecting and comparing information related to specific regions. • Asking a variety of questions related to given geographical information or thereof . • Answering questions related to the extent and location of a region by showing them on maps or images.
2.	Physical Geography	2.1 Physiography	• Drawing conclusions regarding a region on the basis of geographical information. • Explaining the similarities and dissimilarities in physical factors between a region and its surrounding area. • Answering various types of questions after comparison of geographical references. • Finding out the factors behind a region's uniqueness
		2.2 Climate	• Collecting information with reference to regions to deduce conclusions • Preparing questions related to a region with respect to other regions and finding out about them.
		2.3 Drainage	• Commenting on the natural drainage and its correlation with physical features
		2.4 Natural vegetation and Wildlife	• Examining and classifying patterns found in different regions. • Understanding and suggesting measures on environmental problems. • Reasons behind the location of habitats of natural vegetation and wild life in a particular region.
3.	Human Geography	3.1 Population	• Measuring 'population' and observing its trends • Examining the impact of economic, political, cultural and social processes on interrelationships, cooperation and conflicts in human populations • Explaining factors affecting development of local and regional human communities . • Finding out variables related to migration. • Finding out the factors behind a region's uniqueness
		3.2 Settlements	• Relating that change in environment causes development in some places and problems in some regions • Examining the physical factors and settlement patterns and correlating them • Drawing conclusions with reference to cultural patterns, physical factors and economic interdependence
		3.3 Land Use	• Commenting on the recent policies and programmes related to use of resources. • Commenting on the future trend of land use and drawing conclusions. • Differentiating between a region and its surroundings on the basis of similarities and dissimilarities in physical factors and their utility
		3.4 Occupations	• Identify patterns of economic interdependence and interconnections • Finding out physical factors affecting human activities • Explaining the impact of physical environment of a region on its economy, culture and trade • Finding out the factors behind a region's uniqueness
		3.5 Transport and Communication	• Explaining that various places in a region are connected because of freight, services and technology. • Knowing that the core of exchange, correlation and transactions are intertwined with human actions. • Drawing conclusions with the help of maps
4.	Practical Geography	Field Visit	• Preparing questions related to a region with respect to other regions and finding out about them • Using geographical tools for finding out answers • Presenting the collected information

- For Teachers -

- ✓ To begin with, get familiar with the textbook yourself.
- ✓ Please refer to textbooks of earlier classes before teaching this textbook.
- ✓ Please plan carefully and independently for the activities in each chapter. Please do not teach without planning.
- ✓ The teaching-learning interactions, processes and participation of all students is very necessary and so is your active guidance.
- ✓ Please use the geographical teaching aids in the school as required for the appropriate understanding of the subject. It is necessary to use the globe, the maps of the World, India and the State, atlases, etc.
- ✓ Though the number of chapters has been reduced the number of periods required for each chapter has been given a thought. Abstract concepts are difficult to follow and therefore you are expected to use the given number of periods fully. Do not finish the chapter in short. This will help the students to assimilate the content without feeling the 'burden of learning'.
- ✓ Like other social sciences, geographical concepts too are not easy to understand. Major concepts of geography have a scientific base and they deal with abstractions. Encourage group work, learning through each other's help, etc. Facilitate peer learning as much as possible by reorganizing the class structure frequently.
- ✓ Do not ask questions on statistical information. Instead, ask questions on their trends or patterns.
- ✓ The present book has been prepared for constructivist and activity-based teaching.
- × Please do not teach the lessons in the book by just reading them aloud.
- ✓ Follow the order of the chapters as given in the contents because the concepts have been introduced in a graded manner to facilitate knowledge-building.
- ✓ Do not use the boxes titled 'Do you know?' for evaluation.
- ✓ Use QR Code given in the textbook. Some websites have been given for reference at the end of the chapter. Also, a list of references used is also given. You as well as the students are expected to use these references. These references will surely help you to go beyond the textbook. Please bear in mind that extra reading is always helpful for understanding any subject in depth.
- ✓ Use thought-provoking, activity-oriented, open-ended, multiple choice questions for evaluation. Some examples are given at the end of the chapters in the 'exercises'.
- ✓ Use outline maps given on page numbers 35 and 60 for photocopy.

While preparing the textbook for Class X, the need of comparative study was taken into consideration. It was envisaged that the textbook must contain at least two regions and that regional comparison between two states within a country must be avoided. Considering the countries, it was obvious that India would be one country. But which country should be chosen as the second one was given a lot of thought. Following criteria were considered for the same.

- The country should not be very developed or underdeveloped.
- Should be located in a different hemisphere.
- Shouldn't be from the same continent. .
- Should be quite similar to India but also different from India in some cases.
- Should have cultural and natural diversity like India.
- Should be a member of international organizations along with India.
- Should have a coastline like India.
- Should have a democratic form of government.
- There should be some similarity in historical background.
- The application of the concepts taught till Class Nine can be applied on the same level to both the countries.
- While studying the comparison of two countries will become noticeable and there will be an increase in respect for India.

On the basis of all the criteria above, Brazil was selected. The application of the geographical concepts on only one region loses its charm. Therefore, studying two regions with respect to regional diversity, similarity and dissimilarity, etc. is necessary for its study. The core of geography lies here. Therefore, it is expected that the selection of Brazil along with India would be meaningful.

CONTENTS

Sr.No.	Chapters	Area	Page No.	Expected Number of Periods
1.	Field Visit	Practical Geography	1	10
2.	Location and Extent	General Geography	9	06
3.	Physiography and Drainage	Physical Geography	14	10
4.	Climate	Physical Geography	25	09
5.	Natural Vegetation and Wildlife	Physical Geography	32	09
6.	Population	Human Geography	38	08
7.	Human Settlements	Human Geography	46	08
8.	Economy and Occupations	Human Geography	52	08
9.	Tourism, Transport and Communication	Human Geography	61	08

S.O.I. Note : The following foot notes are applicable : (1) © Government of India, Copyright : 2018. (2) The responsibility for the correctness of internal details rests with the publisher. (3) The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line. (4) The administrative headquarters of Chandigarh, Haryana and Punjab are at Chandigarh. (5) The interstate boundaries amongst Arunachal Pradesh, Assam and Meghalaya shown on this map are as interpreted from the "North-Eastern Areas (Reorganisation) Act. 1971," but have yet to be verified. (6) The external boundaries and coastlines of India agree with the Record/Master Copy certified by Survey of India. (7) The state boundaries between Uttarakhand & Uttar Pradesh, Bihar & Jharkhand and Chattisgarh & Madhya Pradesh have not been verified by the Governments concerned. (8) The spellings of names in this map, have been taken from various sources.

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Note For Page 9 : The shades of the national flag may vary due to technical limitations.

Front Cover : Shikara-Srinagar, The Himalayas and rivers, Tiger at Sunderbans, Ajanta Caves, Atlantic Ocean-Brazil, Green Anaconda, Carnival-Brazil, Aerial view of Rio de Janeiro city.

Back Cover : Naldurg Fort- Osmanabad, Arabian Sea-Mumbai, Sinhagad and surrounding region, An Indian Rocket, Equatorial Forest-Amazon river.

1. FIELD VISIT

Rahul is going on a field visit with his classmates and school teachers from Naldurg in Osmanabad district to Alibag in Raigad district. The school has engaged a special bus from State Transport for this purpose. Rahul and his classmates have organized this visit under their teachers' guidance. Let's find out how the students are experiencing the changes occurring in the relief, soil, vegetation and human settlements as they travel from Naldurg to Alibag.

Go through the following conversation between the teachers and the students.

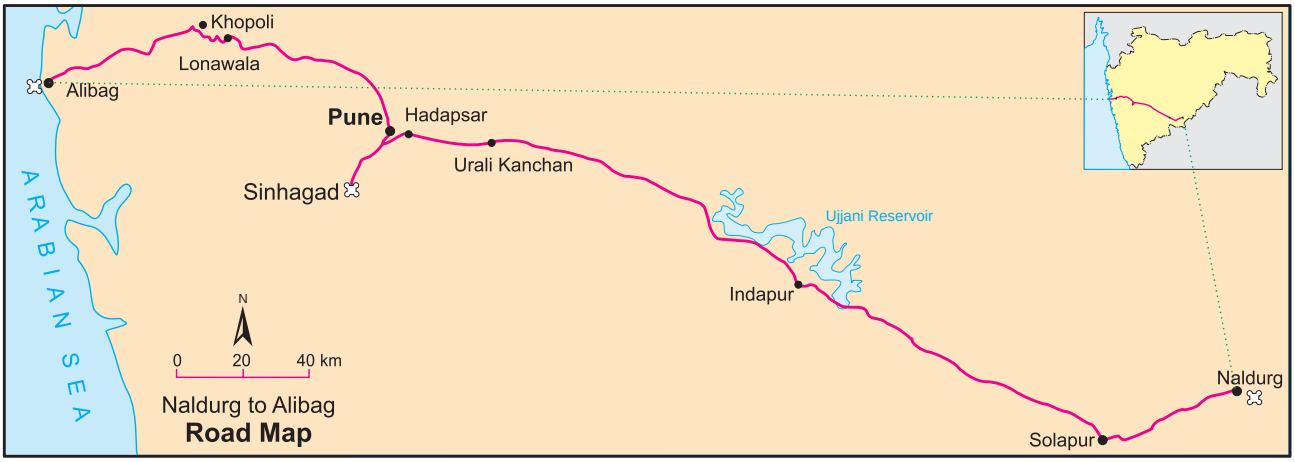


Figure 1.1 : The route of field visit

Besides personal luggage and I-Cards, students are carrying the following items with them.



Figure 1.2 : Items required for field visit

DAY 1- 06:00 hours.

Teacher : Dear students, now we have left Naldurg and are on our way to Solapur. We will have our breakfast at Solapur and lunch near Sinhagad, Pune. Now all of you should observe both the sides along the roads and note down observations in notebooks with reference to these points:

- relief
- water bodies
- vegetation
- soil,
- agriculture
- human settlement
- settlement patterns.

Rahul : Yes, Madam. I can see that we are experiencing undulating topography and somewhere in between we can find plains. We can also see some agricultural fields.



Discuss

- If you were a part of this field visit, what preparations would you make?
- Suppose teachers ask you to plan the visit. How will you plan the details of the trip?



Figure 1.3 : Nar-Madi Waterfalls at Naldurg

Sakshi : We can see small settlements along the roads. We can also see tea stalls, *dhaabas*, petrol pumps and other shops.

Teacher : Yes Meena, your observations!

Meena : Madam, are we going down the slope?

Teacher : Correct! Now we are in the southern part of the Balaghat Ranges. They are the eastern off-shoots of the Sahyadris. Keep looking at the map given to you and the topography outside. You can easily see the changes occurring in the landscape. Now, tell me about the settlement patterns and housing types.



Figure 1.4 : Mud and wood houses (*dhabyachi ghare*)

Suraj : Madam, in rural areas, we see houses in a straight line along the road. The walls of the houses are made of clay while use of mud and wood is visible in making the roofs.

Renuka : In this area, we can mainly see dry grass. Trees which have shed their leaves are visible in some places.



Figure 1.5 : Roads and shops

- What precautions will you take continuously during the field visit?

Teacher : Good observation, Suraj and Renuka ! Such settlements are called 'linear settlements'. We have learnt that in seventh standard. The houses which you saw are called mud and wood houses (*dhabyaachee ghare*). These are the traditional houses built by a specific method. The vegetation here belongs to the dry deciduous type. They shed their leaves during a specific season.

(After some time, they reach Solapur city)



Figure 1.6 : Vegetation of the semi-arid region

- Collect more information about mud and wood houses (dhabyachee ghare) .

Teacher : Now we have reached Solapur city. In urban areas, the population density is high. We see multi-storeyed houses. They are made of a mixture of cement, sand, rubble and water. They are constructed using bricks. Shops with modern amenities like shopping malls, big restaurants, etc. are found along the roads.

(Students started observing the distinctive characteristics of the urban area. After sometime, the teachers asked Rahul to distribute the breakfast packets among the students. They had their breakfasts.)

Teacher : Now we are crossing Solapur city. Dear students, see the cultivation around. What do you see? Observe and tell.

(Children observed on both sides of the road and started writing down their observations in their notebooks. This continued for a long time.)



Figure 1.7 : Cultivation of pulses

- Correlate pulse cropping with low rainfall.

Savitri : Madam, I find that the fields are greener here. When we had left Naldurg, we had seen shrub crops and there was

some sugarcane but now I can see that it is mainly sugarcane being cultivated here.

Teacher : Correct! When we had left Naldurg, we had seen cultivation of *moog, urad* and other pulses but now it is mainly sugarcane. This is because of the availability of irrigation facilities.

Savitri : Yes, madam. We had crossed a canal some time ago and now I can see a large reservoir here. Which is this reservoir, madam?

(Near Indapur, the teachers asked the bus driver to stop at the side of the road. The students got down in a line and gathered around the teachers in a disciplined way)

Teacher : Refer to your maps. As shown there, what you can see to our right are the backwaters of the Ujani dam built on the river Bhima. This dam is mainly used for supplying drinking water. It is also used for power generation, fishing, irrigation, etc. (Some students clicked pictures of the surroundings. They boarded the bus and their journey started again.)

Pooja : Madam, this seems to be a plain area.

Teacher : Yes, we are going through a plain region. This is a part of the Deccan Plateau itself. As we go westwards, we will notice major changes in the relief and vegetation. (After few hours of journey, they left the main road near Hadapsar and turned towards Sinhagad. There were many big and small hotels at the foothills. They stopped at an open space at the roadside and had their lunch. They relaxed for a while.)

Nazma : I also noticed that when we left Naldurg, trees like jujube (bor), babool etc. were visible any one should be there but here different trees are seen.

Teacher : Good ! While crossing Naldurg, we saw semi-arid thorny type of vegetation. Change in type of vegetation is an indicator of change in the amount of rainfall in that area. We see that anjan (ironwood) , banyan and peepal trees are more in number here. Alright, now we have reached the foothills of Sinhagad. Now we will climb to the top and you will see the off-shoots of Western Ghats. You will only carry your I-card, notebook, pen, binoculars, camera, cap, map and water bottle. Keep your luggage and other items in the bus itself.

(When they started climbing the Sinhagad fort, it was



Figure 1.8 : Sugarcane Field



Figure 1.9 : Ujani Dam Reservoir

- Obtain information regarding multi-purpose projects.





Figure 1.10 : Types of trees

- 'Vegetation is an indicator of difference in precipitation'. What are the other indicators of difference in precipitation?

quite sunny at first, then it became cloudy. Later, it also started drizzling and students enjoyed eating steamed groundnuts, buttermilk and curd on the way. They clicked photographs of various physical features, the vegetation around, birds, the aerial view of Pune city and the various structures of the fort. Afterwards, teachers asked them to gather at one place)

Teacher : We have now reached the fort of Sinhagad. How will you collect information about it?

Neha : Madam, we saw a board at the entrance which gave us information about the Sinhagad Fort. We have also clicked its pictures.



Figure 1.11 : Sinhagad Entrance Gate

Teacher : Good, Neha. Now who will tell the differences in the relief features now?

Qasim : Madam, we can see that now the undulating plains have turned into rugged topography with hills. This is a high hill. We are at a higher altitude and hence can even experience clouds.



Figure 1.12 : Rocks (debris)

- How will the terrain below appear to the birds from the sky?

Teacher : Very good Qasim! You can notice many physical features like rock pinnacles, valleys and hills and layers formed from volcanic eruption. Have you recognized the rock found here? You might have seen some debris of landslides at places while climbing. Now, tell me about the agricultural pattern around!

Rahul : Madam, this is basalt , an igneous type of rock. We had learnt about it in Class 6.

Mary : We saw mainly pulses being cultivated at the place where we live. Between Solapur to Pune , we saw sugarcane. Now we see mainly paddy fields.



Figure 1.13 : Khadakwasla Dam as seen from Sinhagad

- Out of which process has the plateau of Maharashtra formed ? What is the main type of rock seen here?

Teacher : Correct. It is because of the good amount of rainfall here. Can you recall seeing a similar fort-like structure before? What difference do you see between both of them?

Wahida : Madam, we can compare this with the Naldurg fort itself. But it is not situated on a hill like Sinhagad. We do not have to climb up a slope to see it.

Teacher : Very good. Now, we have reached the top of the fort. This is a hill fort as it has been built on a hill. This was built with the view of security and to keep an eye on the surroundings. Naldurg is a fort on the land. All such forts are the heritage of our State.

Come here and look down. The water body that you can see in front is the reservoir of the Khadakwasla



Figure 1.14 : Layers of Rocks

dam which serves water to areas in and around Pune. Now we will go to the Kalyan Darwaja (Gate). Come here and see this structure. This is called Devtake. (sacred tank). Water coming from a natural spring gets stored here. Even today it serves water all the year round to the people who stay at the fort above.

All students : (expressing surprise) : Oh my God! How can water be available continuously at this height since centuries?

(The teachers took them to a stall which served *pithla--bhakri*. Students observed that there were many similar stalls. Tourists were being served different food items there. After spending little time at Sinhagad fort, students came down the foothills and boarded the bus. The bus started towards Pune city where they had an overnight halt. In the city, they had evening snacks and tea and got ready to roam in the markets.)

Teacher : We will be visiting places in Pune like Shaniwarwada, and famous market places like Tulsibag and Mahatma Phule mandai (market). There are wholesale and retail markets here. You can do shopping here. Make sure you write down all your observations.

(After the city-tour they had dinner and returned to the place of their night halt)

DAY 2 - 07:00 hrs

(After breakfast, they proceeded to Alibag)

Teacher : Now, we are on the Mumbai-Pune Expressway. Can you see the change in the relief again? We will stop at Rajmachi point near Lonavala.

Tushar : Yes, madam. Even though we are driving on a plain road, we can see hilly regions all around. The frequency of houses is becoming less.

(After Lonavala, they stopped at Rajmachi point and the teacher gave information about various relief features)

Teacher : These are the slopes of the Western Ghats. We call these hilly areas Sahyadris too. From here you can observe the difference in slopes- the gentle slope to the east and the steep slope to the west. Towards the west, you can see many cliffs and waterfalls about which you have learnt in Class IX. This region is also the source of river Ulhas, a major west-flowing river.



Figure 1.15 : Paddy cultivation

- Gather information about forts. Consider the following points for it- determination of location,period of construction, construction style and security mechanism.



Figure 1.16 : Devtake





Figure 1.17 : Food items at Sinhagad

(The students took photographs of these features, it started raining again and their journey resumed.)

Namdeo : (Looking at the map) Madam. We are crossing the Ghat section and now are we going to Khopoli?

Teacher : Correct Namdeo, This is known as the Bhor or Khandala ghat in the Western Ghats. We will now enter the western coastal plains of India. Observe the trees, soil and houses that you see.



Figure 1.18 : Rajmachi

Shiv : Madam, we can see dense forests comprising of thick vegetation in the Ghats. We can see trees with broad leaves. We had seen such trees in the Sinhagad region too.

Teacher : These are the teak trees. This region is a region of deciduous trees. There are many *vanrais* and *devrais*. (woodlands and sacred groves)

(After crossing the Ghats, the dense forest became sparse. Paddy fields and huge industrial estates were now visible.)



Figure 1.19 : A waterfall in Sahyadris

Nazma : Madam, I can feel a change in the weather. It is getting hotter and I have started perspiring.

Teacher : You feel the change in the air. Because of increase in humidity in the air, we start perspiring and skin becomes sticky. As we go near the sea, this will increase.

- Do you agree that regions and necessities influence the difference in the means of livelihood?
- Guess in which season of the year is the field visit being undertaken?

Namdeo : Madam , it has started raining in this region. Also, the amount of rainfall seems to be more. It might be happening because of this.

Teacher : Namdeo, correct observation. Because of heavy rainfall and nearness to the sea, this happens. Also, because of high rainfall, rice is the major crop here.

Soon, we will reach the sea, Can you name the sea?



Figure 1.20 : A 'Devrai'.

All students : (together) the Arabian Sea !

Teacher : Good! After reaching Alibag, before we go to our lodges, we will visit the Talathi office. You can gather information on the basis of the questionnaire you have prepared in the school.

Urmi : We will be asking him questions about the types of crops, soil types, cultivation of fruits and other cash crops. We are asking him how land revenue is collected in his/her office, land under irrigation, watershed programmes and other occupations in the village.



Figure 1.21 : A Vanrai

(They reached Alibag in the afternoon and then visited the Talathi office. They collected information based on their questionnaires.)

Teacher : Dear students. After lunch , we will go to the sea coast. How many of you will be seeing the sea for the first time?

(Almost all of them raised their hands)

Abeera : I am just trying to imagine what a breathtaking view it would be to see the sea.! What will it look like? Or will there be just water!

Teacher : True, Abeera, we will visit the beach now. We have already given clear instructions regarding precautions to be taken there. We will also visit a fort called Kolaba or Alibag fort here. We will have to take into account the timings of the high and low tides as this is little away from the coast in the sea. We have studied the work of sea waves in Class IX. We will also identify some of the landforms formed by sea waves. Can you name some of them?

All children : (almost together) beach…. sea caves…wave-cut platforms, sand bars……

Teacher : Good! You remember them well.

(They visited the beach and the fort. Some of them also enjoyed sitting on horse-driven chariots and some of them enjoyed horserides.)

Neha : Madam this fort is different from the first two.

Teacher : Good Neha. Can you tell the difference between them?

Neha : Yes, Madam. This fort was constructed in water while other two were on land.

Teacher : Good, this fort is built on a wave-cut platform. Because it is surrounded by sea water, it is called a sea-fort. Earlier, these forts were built for the security of the seas. There are many such forts on the west coast.

Neha : Yes, I have heard names like Sindhudurg, Janjira earlier.

Teacher : Based on the information you have collected, can you tell what occupations are followed here?

Rahul : Madam, fishing and agriculture, both the occupations are followed here.

Teacher : Correct, Rahul! To which category do these occupations belong ?



Figure 1.22 : Teak Trees

- What is the concept of 'Devrai'.



Figure 1.23 : Kolaba Fort

- What precautions have to be taken while going to the sea coast?
- What is the simplest method of understanding the timings of the tides?

Meena : Madam these are primary occupations.

Teacher : True. Initially fishing was the main occupation. Later on, agriculture was also practiced in this region but away from the shore. Coconut, betelnut, jackfruit, banana and some spices are cultivated in the coastal plains. This is horticultural farming. Today, tourism has become an important occupation here.

(Afterwards, students spent some time playing on the sands of the beach and captured beautiful glimpses of the sunset in their cameras. After sunset, they came to their lodges. They discussed important points to compile their field visit report. After returning to their lodge, they had dinner and rested for the night at Alibag. Next day in the morning, they had their breakfasts and left for their return journey.)



Figure 1.24 : Alibag beach

- What type of photographs will you click with respect to the field visit?
- On the basis of which points will you write the tour report?
- During field visit, how will you obtain various types of information?

- Carry out a similar field visit in your region too.

The above text is a sample of a field visit. Do not ask questions based on this very field visit. However, as per given exercises, field visit related questions can be asked in general.

Exercise

Answer in short :

(1) Make a report on your field visit.
(2) Prepare a questionnaire for a field visit to a factory.
(3) How will you manage the litter during the field visit?
(4) What items will you take with you for the field visit?
(5) Outline the importance of field-visit.

SEAIQU

Preface :

Friends! Since 6th standard we have been studying 'Geography' as a separate subject as a part of the course 'Social Sciences'. We have been introduced to various concepts, processes and features related to the four spheres of the earth. We have also studied how settlements evolve, how humans have been using the natural resources for their livelihood, how have they processed the raw resources into more usable items, how these goods are traded in local as well as global markets, etc.

Moreover we have been considering the ill-effects of indiscriminate and exploitative utilization of resources in our environment.

To study geography, we need to develop some skills like.

- observation
- classification
- differentiation
- comparison
- Graph, diagrams and map reading
- evaluation
- analysis
- drawing conclusions
- presensation
- Critical thinking

To acquire such skills, we need to study regions using all the geographical concepts and processes we have learnt till now and achieve the learning outcomes. Through this we can learn the application of geographical knowledge. This year we will study all this with reference to two countries.

This year you will do the revision of all the concepts learnt till now. This study will help you to provide an insight into geography and its application. It will help you to understand natural and man-made events.

By applying geographical concepts, the characteristics of the region will be understood. We understand how people in the region have adapted to the region. Problems arising due to over-exploitation of resources can be understood. Degradation of environment and measures to be taken against them can be thought about. Looking at the current trends, you can understand the process of changes occurring. You can predict what will happen in the future. It will help you face natural and man-made disasters in a better way. Regional imbalances and the reason for it can be understood and possible remedies can be suggested.

2. LOCATION AND EXTENT

Few hints and the flags of two countries are given below. Using them, identify these two countries. You can easily identify one of them and hope you can easily identify the other too.



Clues-

- The second largest populated country in the world-
- Famous for spices in the world-
- Cricket is a popular sport here-



- Famous for Samba dance-
- Known as the 'coffee pot' of the world-
- Football is a very popular sport here-

Name of the Country : Republic of India

Name of the Capital : New Delhi

Location, extent, and boundaries-

India is located in the northern and eastern hemispheres of the Earth. It is located in the southern part of the Asian continent.

With the help of figure 2.1, find the extent of the mainland India. Fill in the degree values in degrees in blank spaces -° 4' N to° 6' N latitudes and between° 7' E to° 25' E longitudes.

Indira Point is the southernmost tip of India. It is located on 6°45' N parallel.

Observe figure 2.1. Identify the countries and water bodies around India and complete the table in your notebook.

Make friends with maps !



Figure 2.1 : India

Directions	Neighbouring Countries/ Seas/Oceans
East	
North	
West	
South	

Name of the Country : Federative Republic of Brazil
Name of the Capital : Brasilia

Location, extent and boundaries :

Some part of Brazil lies in the northern hemisphere while most of it lies in the southern hemisphere. Also, it lies in the western hemisphere in the northern part of the South American continent.

With the help of figure 2.2, find the extent of the mainland Brazil. Fill in the degree values in blank spaces-° 15' N to° 45' S latitudes and between to° 47' W to° 48' W longitudes.

Observe figure 2.2. Identify Brazil's neighbouring countries and oceans. Fill in the chart given below in your notebook.

Directions	Neighbouring Countries/Oceans
North	
West	
South	
East	

Make friends with maps!



Figure 2.2 : Brazil

Historical Background: India

India was under the British rule for almost one-and-a-half century. India got its independence in the year 1947. Despite facing several problems like three wars, famine situations in various parts and similar issues after independence, India is a major developing country of the world. India is considered to be a global market too. Because of various economic reforms from time-to-time, India's economic development has paced up.

The proportion of youth in India's population is high. As this forms a major part of a working population , India is looked upon as a young country.

Historical Background : Brazil

For more than three centuries, Brazil was under Portuguese rule. Brazil gained its independence in 1822. From 1930 to 1985, for more than a half century, it was under a populist military government.

It has overcome global financial difficulties in the late 20th century. Brazil is seen as a contributor to economic growth of the world and an important market in the future.

Show the following elements in Fig 2.3.

- Name all the continents and oceans of the world.
- Colour Brazil and India using different colours and name them
- Draw equator on the map and write its value in degrees.
- Show the symbol for direction.

Colours of Both

Answer the following questions with respect to the countries that you have studied.

- Out of the countries that you have coloured, which country is larger in size?
- Which country has a larger latitudinal extent?
- How do the locations of Brazil and India differ in terms of their positions in their respective continents?
- How many states does each of the two countries have?
- Draw the flags of these countries in your notebook.
- Obtain information regarding the emblems of both the countries.

Make friends with maps!

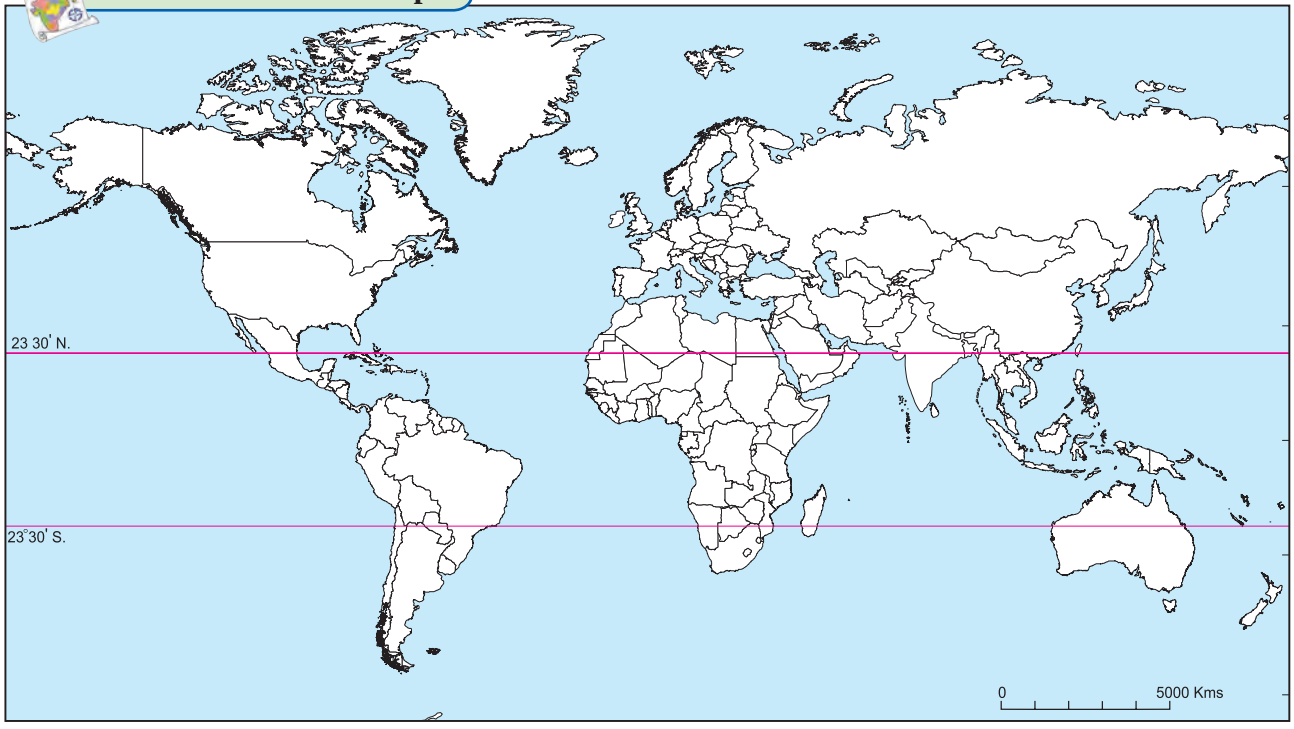


Figure 2.3 : World Outline Map

Give it a try.

- Find the difference between post-independence characteristics of India and Brazil.
- The imperial power which ruled Brazil also ruled a part of India. Find out when that part of India achieved independence ?

Do you know ?

- We celebrate our Independence Day on August 15, whereas Brazil celebrates her Independence day on Sept. 07.
- India has federal parliamentary republic type of government, whereas Brazil has federal presidential republic type of government.
- The name 'Brazil' comes from 'Pau Brasil', a local wooded tree.

Exercise

Q 1. Are the sentences right or wrong. ? Rewrite the wrong ones

(a) Brazil is mainly located in the Southern Hemisphere.
(b) Tropic of Capricorn passes through the middle of India.
(c) The longitudinal extent of Brazil is less than India.
(d) Equator passes through the northern part of Brazil.
(e) Brazil has a coastline along the Pacific Ocean.
(f) Pakistan is a neighboring country to the south east of India.
(g) The southern part of India is called Peninsula.

Q 2. Answer in brief:

(a) What problems did Brazil and India face after independence?
(b) How are Brazil and India different from each other in terms of location?
(c) Describe the latitudinal and longitudinal extent of India and Brazil.

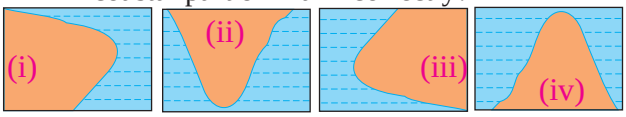
Q 3. Select the correct option

(a) India's southernmost point is known as :
(1) Lakshadweep (2) Kanyakumari
(3) Indira Point (4) Port Blair

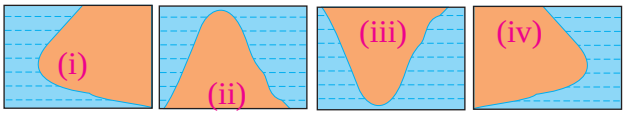
(b) These two countries in South America do not share their border with Brazil.
(1) Chile-Ecuador
(2) Argentina- Bolivia
(3) Columbia- French Guiana
(4) Surinam –Uruguay

(C) Both the countries have type of government
(1) Military (2) Communist
(3) Republic (4) Presidential

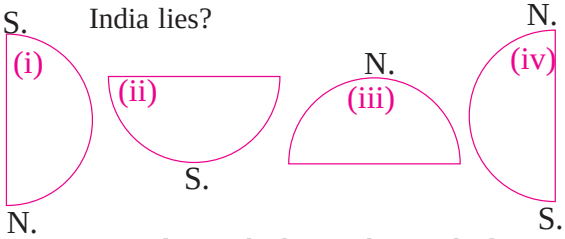
(d) Which of the following shapes show the coastal part of Brazil correctly?



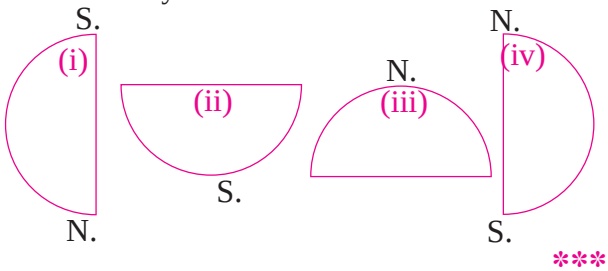
(e) Which of the following shapes show the coastal part of India correctly?



(f) Considering hemisphere, which shape correctly represents the hemisphere in which India lies?



(g) Considering the hemisphere, which correctly represents the hemisphere in which Brazil mainly lies?



SEJESH



Figure 3.1

Observe the map given in figure 3.1 and answer the following questions:

- In which direction does the region with an altitude of more than 6000m lie in India ?
- Look for the south-flowing river in the peninsular region. In which river basin does it lie?
- In which direction is the slope of the region in the north shown in dark green?
- Make a list of plateaus located in between Aravali ranges and Chhota Nagpur Plateau.
- Name the peak shown in the Eastern Ghats
- Which mountains demarcate the deep plains of Brahmaputra?

- Give the relative location of the Nilgiri Hills.
- In which direction does the height of the Sahyadri hills increase?
- The Vindhyas act as water divide between which two river basins?

Observe figure 3.2 and answer the following questions :

- What is the range of the altitude of Amazon river basin?
- Between which two highlands is the Amazon river basin located?
- Observe the region with the altitude 500 to 1000 metres. Describe the locational extent of this region shown in yellow with reference to direction.
- What do the isolated regions shown in yellow indicate?
- Besides the Amazon river basin, where else do you find regions with an altitude of less than 200m?
- Describe the plateau region with height of 200 to 500 m through which tributaries of Amazon flow in your own words.

Make friends with maps!



Figure 3.2

Geographical explanation

India :

Figure 3.1 shows the physiography of India. The country is divided into five major physiographic divisions

• The Himalayas • The North Indian Plains • The Peninsula • Coastal Plains • Island groups.

Himalayas : The Himalayas is one of the young fold mountains in the world. The Himalayas extend from Pamir Knot in Tajikistan to the east. It is a major mountain system of the Asian continent. In India, it extends from Jammu and Kashmir to Arunachal Pradesh.

The Himalayas is not a single mountain range. There are many parallel ranges in the system. The southernmost is known as Siwaliks. It is also the youngest range. Next to Siwaliks are Lesser Himalayas, Greater Himalayas (Himadri) and Trans Himalayan ranges from south to north. These ranges are young to old respectively.

These mountain ranges are also divided into Western Himalayas (or Kashmir Himalayas), Central Himalayas (or Kumaun Himalayas) and Eastern Himalayas (or Assam Himalayas).

North Indian Plains : This division lies between Himalaya Mountains in the north and the Peninsula in the south. Similarly, it extends from Rajasthan and Punjab in the west to Assam in the east. It is mostly a flat low lying area.The North Indian Plains are divided into two parts. The part lying to the east of the Aravalis is the basin of the river Ganga and is therefore known as the Ganga Plains. It slopes eastward.

Most of the West Bengal State of India and Bangladesh together constitute the delta of Ganga-Brahmaputra system. It is known as Sunderbans. It is considered to be the worlds largest delta. See Fig 3.3.



Figure 3.3 : The image of Sunderban Delta

The western part of the North Indian Plains is occupied by desert. It is also known as Thar Desert or Marusthali. Most of Rajasthan is occupied by this desert. To the north of the desert lie the plains of Punjab. This region is spread to the west of Aravalis and Delhi ranges. These plains have formed as a result of the depositonal work by river Sutluj and its tributaries. The slope of the plains is towards the west. Because the soil here is very fertile, agriculture is largely practised in this region.

The Peninsula : The area lying to the south of North Indian Plains and tapering towards the Indian Ocean is called Indian Peninsula. It consists of many plateaus and hill ranges. The Aravalis in the north are the oldest fold mountains here. It includes a series of plateaus bordering the Plains, Vindnyas and Satpuda ranges in the central part and the hilly regions of Western and Eastern Ghats.

Can you tell ?

On the basis of Fig 3.1, answer the following questions:

- In which direction do the Aravalis lie ?
- Aravali ranges act as a water divide between which rivers?
- Name the hills located on the plateaus to the east of Aravalis.
- Across which states has the Deccan Plateau spread?

- Which hill ranges lie to to the west of the Deccan Plateau?
- Enumerate the characteristics of the Western Ghats.
- Compare the Eastern and the Western Ghats.
- Why are the Western Ghats called a water divide?

The Coastal Plains : India is blessed with a long coastline extending for approximately 7500 km. It lies to the western and eastern part of the Peninsula. Its western and eastern coastlines show remarkable dissimilarities.

The western coast borders the Arabian Sea. It is by and large a rocky coast. At places, spurs taking off from the Western Ghats have extended right up to the coast. Its width is also less. Rivers originating from Western Ghats are short and swift and hence they form estuaries and not deltas.

The eastern coast borders the Bay of Bengal. It has formed as a result of depositional work of rivers. Many east flowing rivers starting from the Western and Eastern Ghats meet this coast. Because of the gentle slope of the land, rivers flow at lower velocities and deposit the sediments brought with them at the coast. As a result, deltas are found along this coast.

The Island group : India has many small and large islands along the coast of the mainland. These are included in the coastal island group.. Besides, India has two large group of islands, one each in the Arabian Sea and in Bay of Bengal. The islands in the Arabian Sea are known as Lakshadweep whereas the islands in the Bay of Bengal are called the Andaman and Nicobar Islands.

Most of the islands in Lakshadweep are atoll islands. They are small in extent and not very high.

Islands in the Andaman group are mainly volcanic islands. They are large with hills in their interior parts of includes an island called Barren Island which has the only active volcano in India. There are atolls in the Nicobar group too.

Brazil :

Even a cursory look at the map will make you realize that a large part of Brazil is occupied by highlands, plateaus and small mountains. There are no very high and long extending mountains in the country. Except for the northern Amazon basin and in southwest along the upper parts of Paraguay basin, there are no wide plains in the country. Even the coastal plains are restricted in their expanse. The physiographic divisions of Brazil are as follows.

- The Highlands
- The Coastal region
- The Island groups :
- The Great Escarpment
- The Plains.

The Highlands : The southern Brazil is occupied by an extensive plateau. It is differently described as Brazilian Highlands or Brazilian Shield or Brazilian Plateau. Brazilian and Guyana Highlands together form the core of South American continent.

The main part of the Guyana highlands is in Venezuela and it extends upto French Guiana. In Brazil, it covers the states of Roraima, Para and Amapa in the north. The lower part of these highlands is found in Brazil. But the highest peak of Brazil, Pico de Neblina, is 3014 m high and lies on the border between Brazil and Venezuela.

The regions to the east and south of the Brazilian highlands have an altitude of more than 1000m. But in other parts, the altitude is between 500 to 1000m. The highlands gradually slope towards north and slopes are not very steep. The tributaries of Amazon flowing through this region make rapids and waterfalls. Towards the north the slopes are steep but not abrupt. A number of rivers take off from the terminal portion of the highlands and flow northwards to meet Atlantic Ocean.

Some major rivers like Uruguay, Paraguay and Parana originate from the southern slopes of the highlands and enter Argentina. Its slope towards the east is steep and it appears in the form of an escarpment.

The Great Escarpment : Though it occupies a very small area, the nature of its slope and the effect it has on the climate makes it a separate physiographic region. The eastern side of the Highlands is demarcated because of the escarpment. In this region, the altitude of the escarpment is 790m. In some regions, the height decreases gradually. The escarpment is very steep particularly from Sao Paulo to Porto Alegre. The escarpment act as a barrier to the Southeast Trade winds giving rise to the rain--shadow area in the northeastern part of the highlands. The region to the north of this area is called 'Drought Quadrilateral'.

The coasts : Brazil has a coastline of about 7400 km. One may divide that into two parts namely northern and eastern coast. The northern coast extends from Amapa province in the north to Rio Grande do Norte in the east. This can be called as the North Atlantic coast. From there, the eastern coast extends towards the south.

The northern coast is characterized by mouths of many rivers including the Amazon. Therefore this region is a low-lying region. On this coast lie the Marajo island, Marajo and Sao Marcos Bays. Marajo is a large coastal island located between the mouths of River Amazon and River Tocantins.

The eastern coast receives large number of smaller rivers. The only major river which meets the Atlantic Ocean here is Sao Francisco. The Brazilian coast is characterized by a large number of beaches and sand dune complexes. The Brazilian coast is protected in some areas by coral reefs and atoll islands.

The Plains : The plains in Brazil are confined to two areas namely the Amazon basin in the north and Paraguay-Parana source region in the southwest. Amazon plains lying between the two highlands form the largest plain land of Brazil. Amazon plains lying in the northern parts of Brazil generally slope eastwards. The Amazon basin is quite wide in the west (about 1300 km) and it narrows eastward. Its width is minimum where the Guyana Highlands and Brazilian Highland come closer. (240 km.) As the river approaches the Atlantic Ocean, the width of the plains increases. These are mostly forested areas and largely inaccessible due to frequent flooding and dense undergrowth. Most of the Amazon plains are covered by tropical rainforests.

The other plains in Brazil are located to the southwestern part of the highlands. They form the source region of Paraguay and Parana rivers. The source region of Paraguay slopes towards the south while the source region of Parana slopes towards the southwest.

Pantanal is one of the largest wetlands in the world. It lies towards the southwest part of the highland areas . It is a region of swamps and marshes in northwestern Mato Grosso do Sul in Brazil and it extends into Argentina too.

Islands : Besides the mainland, some islands are also included in Brazil. They can be classified into coastal islands and marine islands. Most of the coastal islands have formed due to deposition. Marine islands were a part of the mainland. They are more than 300 km away from the mainland in the Atlantic Ocean. These islands are mostly rocky and they are the top of the submerged mountains. The islands near the coast of the South Atlantic Ocean are coral islands and they are called atolls.



Do you know ?

Praia do Cassino or Casino Beach is the southernmost beach of the Brazilian coast on the South Atlantic Ocean. It is considered to be the longest sandy beach in the world. It is a continuous beach extending for more than 200 km

Colours of Both

Figures 3.1 and 3.2 show the physiography of India and Brazil. Use the maps and the indices to answer the following.

- Compare the indices of both the maps.
- In which parts do the areas with highest altitude lie in both the countries, respectively?
- In which country is the range of altitude higher?
- Compare the highest range of altitudes given in both the countries. What difference do you see?
- In which direction is the slope of the Amazon river basin region?
- In which direction is the slope of the Deccan Plateau of India ?
- Tell the regions of rain shadow in both the countries.
- Considering the distribution of altitude, direction of slope of land and other characteristics of physiography, write 10 sentences each about the physiography of India and Brazil.

DRAINAGE :

Try this.

Maps showing major rivers of Brazil and India are shown in figure 3.3 and 3.4 . Take two tracing papers and prepare drainage basin maps of Amazon and Ganga. Name the basins.

Write a comparative note on the basins of Ganga and Amazon river. You may consider following points for the comparison.

- Size of catchment area (consider the map)
- Their relative location within respective countries
- Headwater regions of rivers.
- Orientation of the rivers
- Major tributaries and their orientation.
- Any other point(s).

Some more information :

	Ganga River	Amazon River
Total catchment area (in sq.km)	10,16,124	70, 50, 000
Total length of river (in kms)	2,525	6,400
Water discharge (Cu.m. per sec)	16 , 648	2,09,000

Geographical explanation

Brazil :

Drainage of Brazil : As far as the drainage in Brazil is concerned, there are three major river Basins.

- Amazon Basin
- Paraguay-Parana system in the southwest
- Sao Francisco in the eastern part of highland and other rivers at the coasts

Amazon basin : Amazon collects its headwaters from the eastern slopes of Andes Mountains in Peru.. Amazon River receives huge discharge. This is about 2 lakh m3/s . As a result, Amazon washes off the load supplied to it from the catchment. Consequently, sediments are not deposited even at the mouth. A dense network of distributaries, which is a characteristic feature of river mouth areas, is by and large absent in the mouth region of Amazon. Instead we find a series of islands developed along the mouth of Amazon beyond the coast line in to the Atlantic Ocean. It will be interesting to note that at the mouth the width of Amazon channel is 150 km. (Take into consideration a place which is 150kms away from your home. You will get an idea of the width). Most of the course of the Amazon river is suitable for navigation.



Figure 3.4 : Brazil - Drianage

Paraguay-Parana system : These two rivers are located in the southwestern part of Brazil. Both the rivers form the catchment of River Plata in Argentina. These two rivers and river Uruguay in extreme south of the highlands collect their headwaters from the southern portion of the highlands.

Sao Francisco : It is the third important river of Brazil. The entire basin of this river is within Brazil. It occupies the eastern portion of the highlands. The river flows towards the north for a distance of about 1000 km over the plateau and then takes a sharp eastward turn to enter the coastal strip along the Atlantic Ocean. The river is navigable for a distance of about 250 km in its downstream reaches.

Coastal Rivers : Brazil has a number of short coastal rivers. The coastal area being densely populated these rivers attain significance. River Paraniba and River Itapecuru flowing northwards meet the North Atlantic Ocean. The rivers that enter South

Atlantic Ocean collect their headwaters along the escarpment. River Puraguaco enters the Atlantic Ocean near Salvador town.

India :

Drainage of India : Rivers in India are largely classified according to their source region into Himalayan and Peninsular rivers.

Himalayan drainage : Most of the major rivers in the Himalayas originate from various glaciers. In summers when glaciers melt, the discharge of water increases in summer. They flood during monsoons too. They are perennial rivers.

The drainage covers two major river systems such as Indus river system and Ganga river system. Indus and its tribuatries

Make friends with maps !

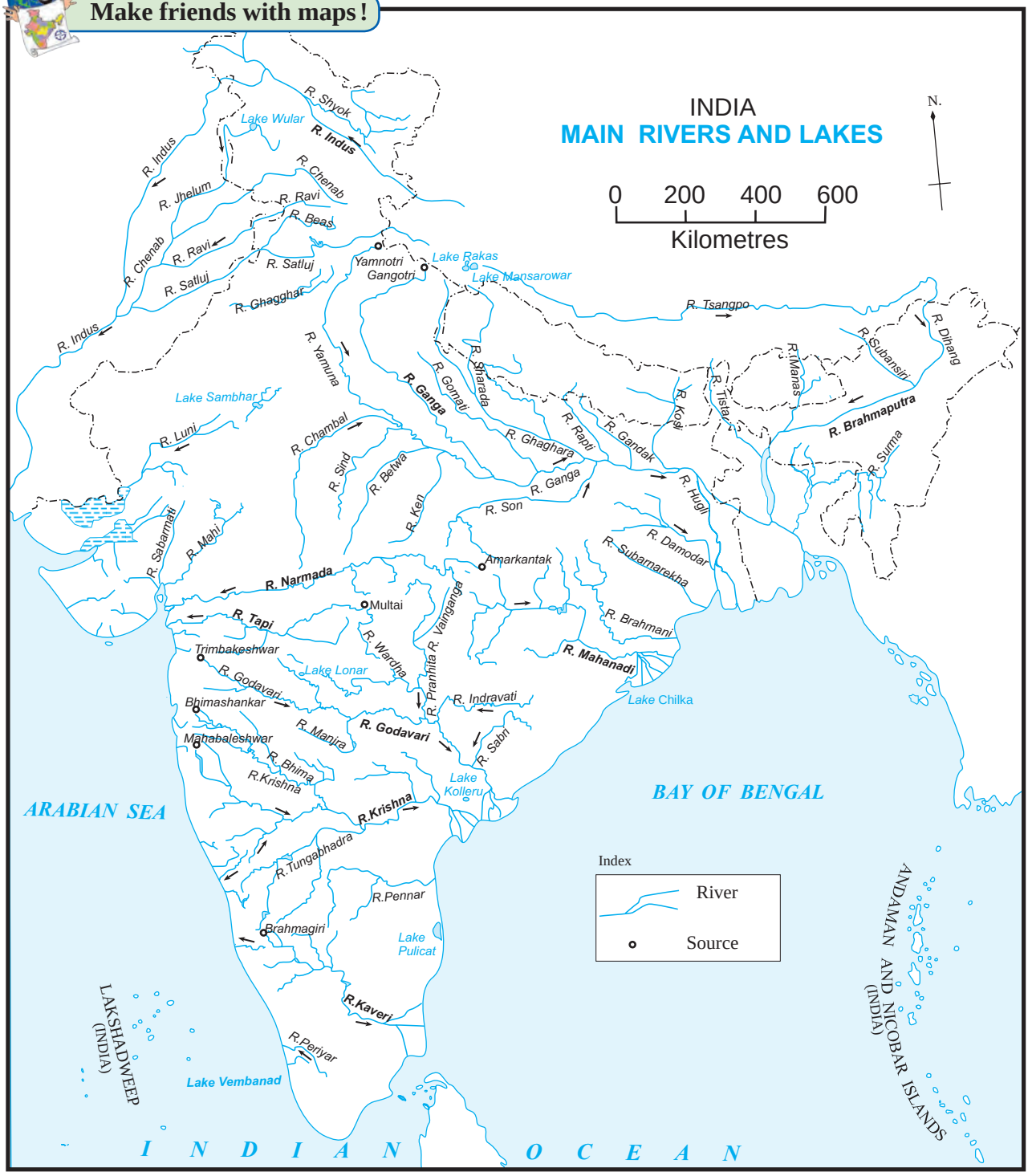


Figure 3.5 : Drainage of India

Find out.

Many geologists say that the rivers of the Himalayas are older than the Himalayas themself. Try to find out the reason behind this.

(Jhelum, Chenab, Ravi and Satluj) drain the Western Himalayas i.e. they flow through Jammu and Kashmir and Ladakh. They flow almost parallel to each other.

A major tributary of river Indus , the Satluj, originates near Man Sarovar and flows westwards. Punjab Plains have been formed the depositional work of this river and its tributaries. Indus flows through Pakistan and then meets the Arabian Sea.

The river Ganga originates from the Gangotri glacier and crosses the Himalayas to become an east-flowing river. Many tributaries of the Ganga also flow in a similar manner. Yamuna, originating at Yamunotri, is a major tributary of Ganga.

Another major tributary of the Ganga flows through the northern part of the Greater Himalayas, crosses the Himalayas to enter India. When it flows through the Himalayas it is called Tsang Po. When it crosses the Himalayas, it is called Dihang and its eastward flow thereafter is called as Brahmaputra. From time to time, Ganga meets its trbuatries, hence its discharge increases. Ganga receives Brahmaputra as its tributary in its lower reaches in Bangladesh. The huge volume of water and huge deposition has led to the formation of a large delta. Besides these Himalayan rivers, a number of tributaries from Peninsula like Chambal, Ken, Betawa, Shon, Damodar etc. drain into the Ganga basin.

Peninsular Rivers : The Peninsular river systems can further be divided into east flowing (meeting the Bay of Bengal) and west-flowing (meeting the Arabian Sea) . The Western Ghats form a major water divide in the Peninsula. The peninsular rivers, being rain fed rivers, seldom face the problem of floods. They are seasonal in nature.

The west flowing rivers occupying the area between the Western Ghats and the Arabian Coastline are short in length but swift. This condition of short and swift river system exists in the states of Kerala, Karnataka, Maharashtra and Southern Gujarat.

Do you know ?

The coastal rivers in Kerala have long extending backwaters near their mouths. These water bodies are locally known as 'Kayals'

Further northwards one comes across the river system flowing in to the Gulf of Khambhat. These river systems are Tapi, Narmada, Mahi and Sabarmati.

Tapi and Narmada flow slowly through rift valleys. Mahi River flows from North East to South West direction whereas River Sabarmati collecting its headwaters from the southern slopes of Aravali ranges flows in somewhat North-South direction. Another noteworthy river forming the catchment of Arabian Sea is River Luni. It originates along the western slopes of Aravali range and flows in somewhat northeast to southwest direction and flows into Gulf of Kutchch.

Rivers meeting the Bay of Bengal : Most of the area of the Peninsula is drained by the rivers flowing towards Bay of Bengal. The important river systems of this group are Mahanadi, Godavari, Krishna and Kaveri. Mahanadi basin occupies the northeastern part of the Peninsula. Godavari, Krishna and Kaveri originate in the eastern slopes of the Western Ghats.

River Godavari is the second largest river system of India in terms of the catchment area.

To the south of Godavari is located the basin of River Krishna. It major tributaries are Bhima and Tungbhadra.

River Kaveri Basin flows through the states of Karnataka and Tamil Nadu. It is one of the major rivers of Peninsula. It is a river that has been harnessed for irrigation since a long time.

Do you know ?

The Chola king constructed a dam on the river Kaveri in the 2nd century A.D. near Tiruchirapalli and started irrigation in this deltaic region. Till today, the dam and its canals are operational.

Think about it.

Look at the map on Pg. No 18 in Class IX Geography textbook. Compare it with the physical map of Brazil. Think about the potential areas where earthquakes may occur.

Exercise

Q 1. Complete the sentences by choosing the right option :

(a) Brazil is covered mainly by
- (i) Highlands.
- (ii) Plains.
- (iii) Mountainous region.
- (iv) Dissected hills.

(b) Like Brazil, India too has
- (i) high mountains.
- (ii) ancient plateau.
- (iii) west-flowing rivers.
- (iv) snow-capped mountains.

(c) The Amazon Basin is mainly
- (i) characterized by droughts.
- (ii) filled by swamps.
- (iii) covered by dense forests.
- (iv) fertile.

(d) Amazon is a large river in the world. Near its mouth
- (i) deltaic regions are found.
- (ii) no deltas are found.
- (iii) deposition of sediments occurs.
- (iv) fishing is done.

(e) The Lakshadweep Islands of Arabian Sea are
- (i) made from the part separated from the mainland.
- (ii) coral islands.
- (iii) volcanic islands.
- (iv) continental islands.

(f) To the foot hills of the Aravalis
- (i) lies the Bundelkhand Plateau.
- (ii) lies the Mewad Plateau.
- (iii) lies the Malwa Plateau.
- (iv) lies the Deccan Plateau.

Q 2. Answer the following questions

(a) Differentiate between the physiography of Brazil and India.

(b) What measures are being taken to control pollution in the rivers of India?

(c) Explain the characteristics of the North Indian Plains.

(d) What could be the reasons behind the formation of swamps in the extensive continental location of Pantanal ?

(e) Which are the major water divides of India giving examples.

Q 3. Write notes on

(a) Amazon River basin

(b) Himalayas

(c) The coasts of Brazil

(d) The Indian peninsula

(e) The Great Escarpment

Q 4. Write geographical reasons.

(a) There are no west-flowing rivers in Brazil.

(b) There are dissimilarities between the eastern and western coasts of India.

(c) There are fewer natural ports on the eastern coast of India.

(d) As compared to Amazon, pollution in river Ganga will affect human life greatly.

Q 5. Identify the correct group

(a) The order of physiograpic units in Brazil while going from North-West to South -East.
- (i) Parana River basin- Guyana Highlands- Brazilan Highlands
- (ii) Guyana Highlands- Amazon river basin - Brazilan Highlands
- (iii) Coastal Plains - Amazon river basin - Brazilan Highlands

(b) These rivers of Brazil are north-flowing
- (i) Juruika- Xingu- Aragua
- (ii) Negro-Branco-Paru
- (iii) Japura-Jarua-Purus

(c) The order of plateaus of India from south to north

(i) Karnataka- Maharashtra-Bundelkhand

(ii) Chhota Nagpur- Malwa- Marwad

(iii) Telangana-Maharashtra-Marwad

Shield Area : Shield is considered to be the core portion of a continent. These shields are made up of igneous crystalline rocks and high grade metamorphic rocks. Rocks in the shield area are ancient. Their period can be from 580 million to 2 billion years. Brazil and Guyana shields are considered to be the core of the South American continent.

Activity:

Observe figure 3.1 and 3.2 and fill in the following table with the physiographic divisions found in the States of India and Brazil respectively.

States of India	Physical Divisions	States of Brazil	Physiographic Divisions

SETAU5

Study figure 4.1 and 4.2 and answer the following questions:

- Considering the isotherms of Brazil, what is the average range of temperature in Brazil?
- In which area does it rain more?
- From which directions are winds flowing towards Brazil?
- What could be the reason behind that?
- What could be the obstruction in the way of these winds?
- Which type of rainfall will occur because of these winds?
- Correlate these winds and rainfall.
- In which part of Brazil are the average temperatures low?
- Identify the rain-shadow area in Brazil. Describe its climatic characteristics.
- In which region do you find a higher temperature?
- Considering the latitudinal extent of Brazil, where will you find temperate climate in Brazil?
- Describe the winds blowing between 0° to 5° N and S zones.
- Which method has been used to show distribution in this map?



Figure 4.1

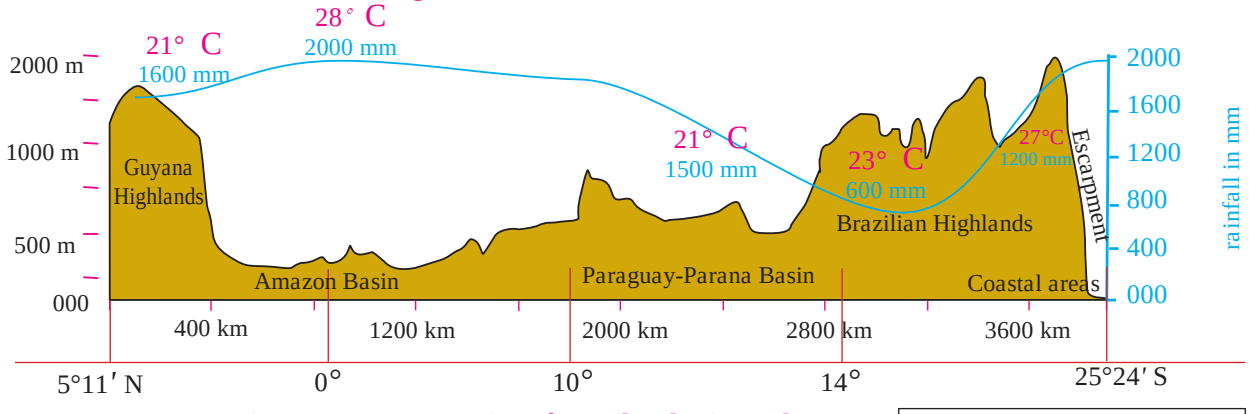


Figure 4.2 : Cross-section of Brazil's physiography

INDIA:

Observe Fig 4.3 and write the answers.

- Which region gets more than 4000mm of rainfall ?
- Identify the regions with maximum and minimum temperatures?
- In which direction is the temperature increasing?
- Identify the direction of the winds shown. What are they known as?
- Which winds are responsible for the rainfall in India ?
- Some part of Rajasthan is under desert? What could be the reason for it?
- Draw the main parallel of latitude passing through India which affects its climate. (Refer to. Fig. 2.1)
- In which part of Peninsular India are semi--arid climatic conditions found and why?

Make friends with maps!

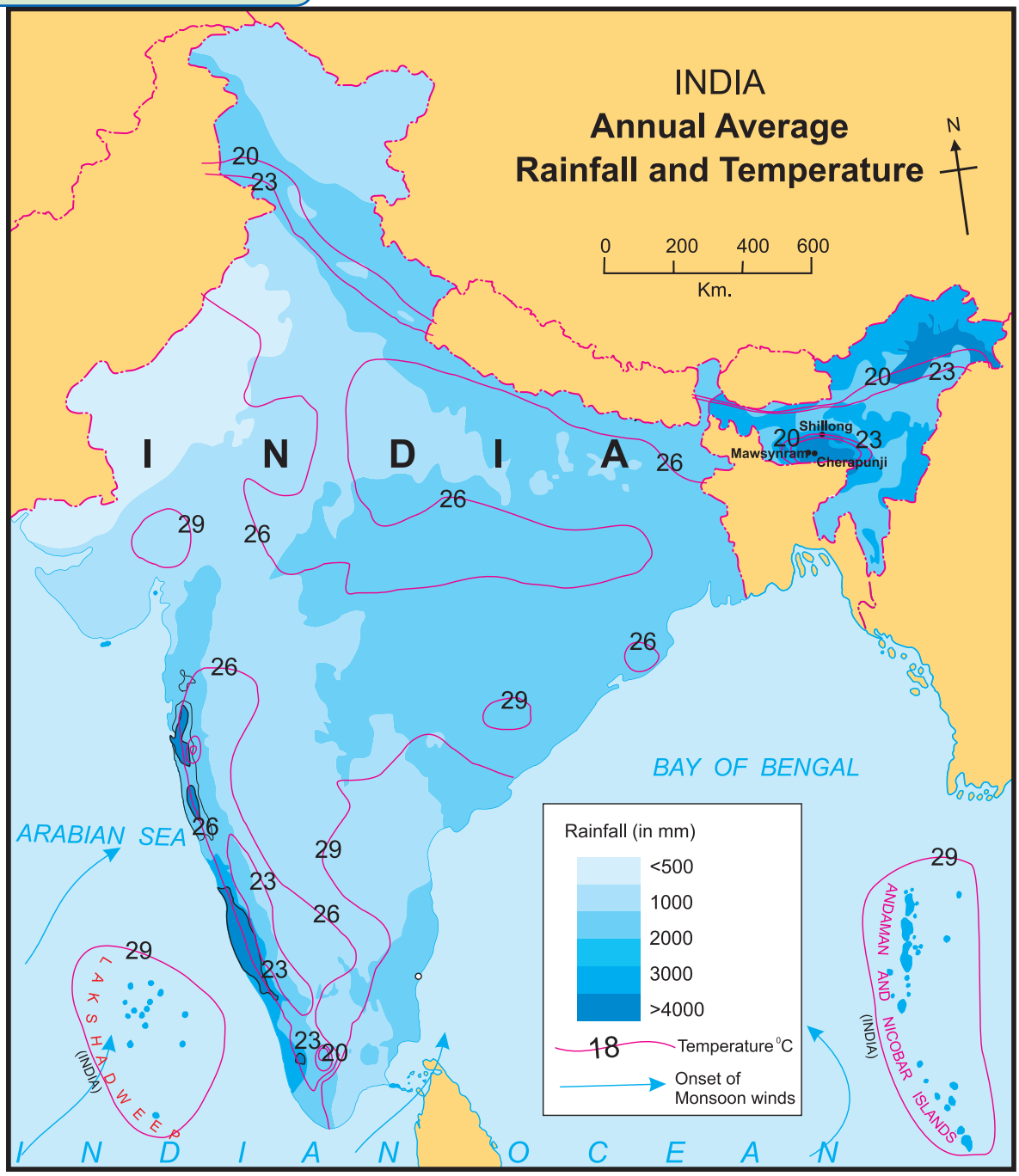


Figure 4.3

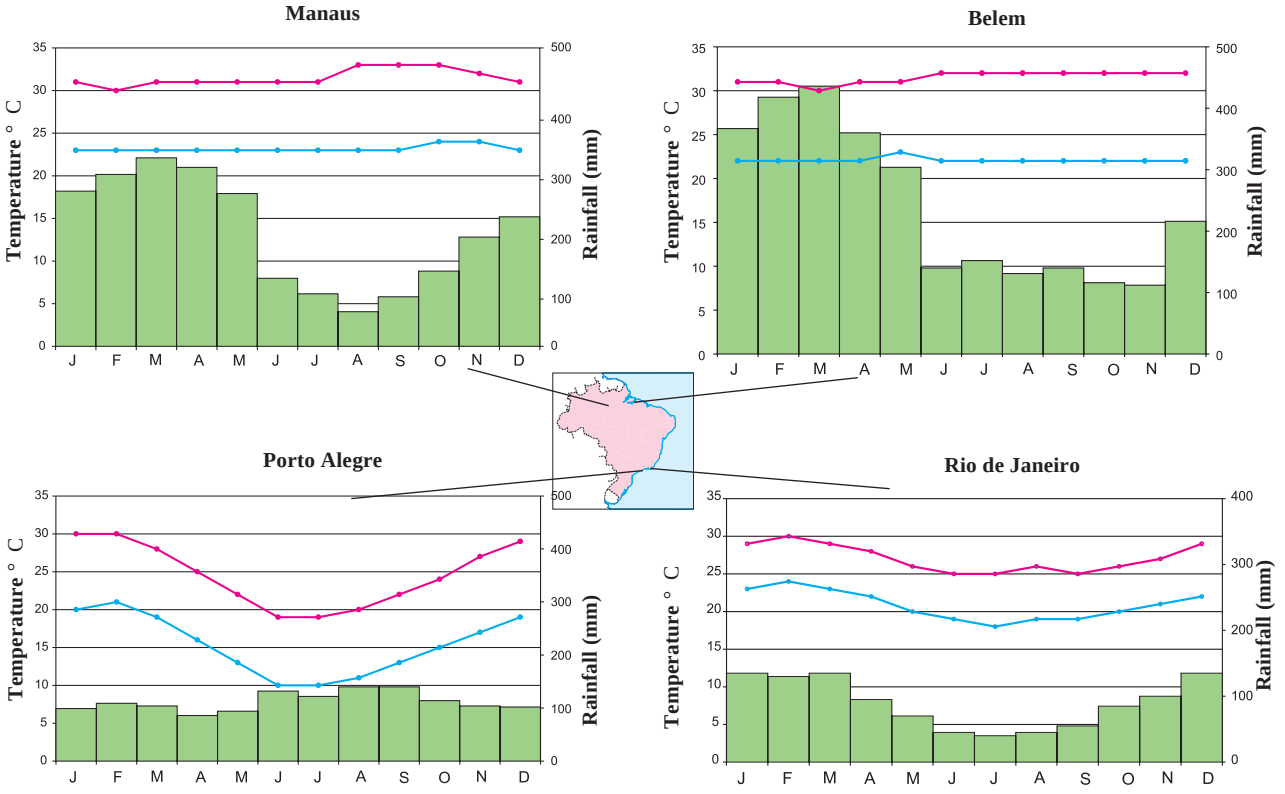


Figure 4.4 : Annual average Temperature and Rainfall graph

Can you tell ?

Study the graphs given in fig 4.4 and answer the following questions.

- In which month is the highest temperature found in all the four cities?
- In which month does it rain the most in the given cities ?
- When does Brazil have its rainy season ?
- Which city has the maximum range of temperature? How much is it?
- What type of climate will be found in Rio De Janerio ?

Geographical explanation

BRAZIL:

Because of the vast latitudinal extent of Brazil, it experiences wide range of climatic variations in climate. For example near equator it is hot while temperate type of climate is found near Tropic of Capricorn. Brazil gets rainfall from the South-East Trade winds and the North-east Trade Winds.

Parts of the Brazilian highlands extend upto the northern coast. The escarpments act as an obstruction to the winds blowing from the sea and cause orographic type of rainfall in the coastal region. Beyond the highlands, the effect of these winds gets reduced. As a result, the rainfall is minimal. This region is a rainshadow region. This region is called 'Drought Quadrilateral'. Considering the temperatures in Brazil, the northern part of Brazil is hot while the

Give it a try.

Considering the various factors affecting Brazil's climate, complete the adjoining table.

Regions	Climatic characteristics
Amazon Valley	
Highlands	
Pantanal	
Northern Coastal region	
Southern Coastal region	
Southernmost region of Brazil	

temperatures in the southern part are comparatively lower. Seasonal variations are found in this pattern. Near the equator at Brazilian coast, temperature does not vary much.

In the coastal regions near the equator in Brazil, differences in temperatures are negligible. The winds move in the vertical direction in this region. Similarly, the convergence zone of th trade winds is weak here. As a result, cyclones are not formed. That is why tropical cyclones rarely visit the coasts of Brazil.

Most of the part of this country lies in the tropical zone. The equator passes through the northern part of the country. The temperature is more in this region. The average temperature in the Amazon valley is 25 ° - 28° C . The climate is cooler in the Highlands . Because of the proximity to the sea, the coast experience mild and humid climate. The Amazon valley receives around 2000 mm of rainfall. while the north-eastern coast receives 1000 to 1200 mm of rainfall.

Can you tell ?

Study the graphs given in figure 4.5 and answer the following questions:

- What difference do you find in the rainy seasons of Chennai and other cities of India? Why?
- What similarity do you see in the temperature curves of Delhi and Kolkata ?
- Calculate the average range of minimum and maximum temperatures of all the four cities.
- In which city is the range minimum? What can you infer from this?
- In which city is the range maximum? What can you infer from this about its climate?
- Based on the temperature and rainfall of Mumbai, comment upon its climate.
- Classify the cities as cities with equable and extreme climates.

Geographical explanation

INDIA :

India's climate is 'monsoon' type. The sunrays are perpendicular upto the Tropic of Cancer , which passes through the middle of the country . As a result, average temperatures are higher throughout the year. Also, temperatures

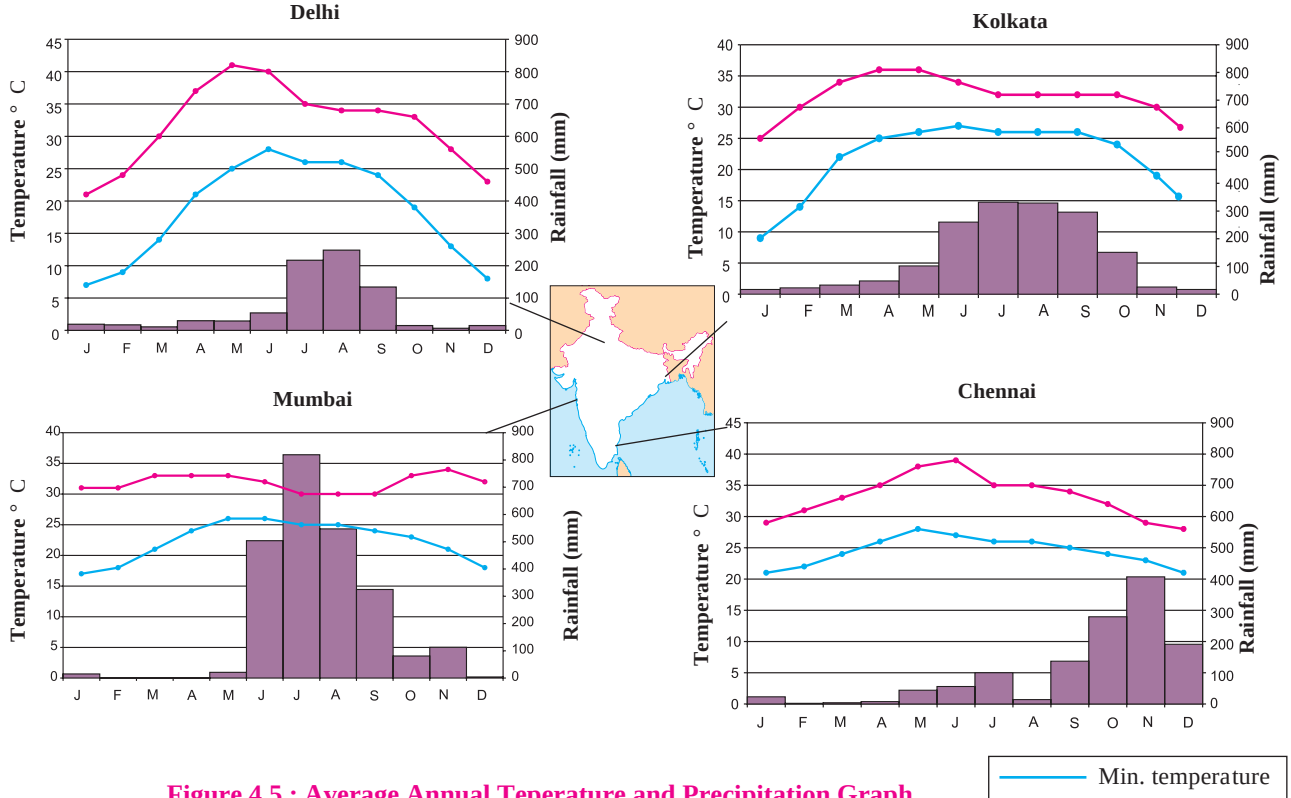


Figure 4.5 : Average Annual Teperature and Precipitation Graph

increase towards the south. In winters, , the temperatures drop to - 40° Celsius in Jammu and Kashmir and parts of mountainous regions of Himalayas.

The diversity in climatic conditions of India is due to the latitudinal location and altitude of the place. The Indian Ocean and the Himalayan ranges exert a great influence on the climate of India and the origin of Monsoons.

Very cold winds blowing from the north are obstructed by the Himalayas. Similarly, the South–West Monsoons retreat from the Shiwalik and Himachal ranges of the Himalayas. Because of high temperatures in summers, low pressure area develop in Punjab plains and the Thar desert of Rajasthan. This attracts winds blows from the high pressure region in the Indian Ocean which start blowing towards the mainland of India. These moisture-laden winds bring rainfall. Because of the obstruction caused by the Eastern and Western Ghats, it rains more in the coastal areas. The rainfall reduces in the leeward side of the hills. These winds blow parallel to the Aravalis. As a result, rainfall is low in parts of Gujarat and Rajasthan. Later, these winds move towards the Himalayas. Their moisture--carrying capacity increases. Orograpghic type of rainfall occurs because of the natural obstruction of the Himalayas. These winds return from the Himalayan ranges and their retreating journey starts. While blowing from the north-east towards the Indian Ocean, these winds bring rainfall again to some parts of the Peninsula. This is the Retreating Monsoon season in India. In general, the climate of India is hot throughout the year.

As the Tropic of Cancer passes through the middle of India, India is considered to be in the tropical region. India faces natural disasters like erratic rainfall, droughts, cyclones, floods, etc. frequently.

There are four seasons as per the Indian Meteorological Department.

- The hot weather season
- The season of rainfall (Monsoon)
- The season of Retreating Monsoon
- The cold weather season

Use your brain power!

- Group the months into seasons for a whole year according to the charts given.
- Find out more about different ways of classification and the seasons. For example, what is summer?

Colours of Both

Considering the location extent and climatic conditions of both the countries, write months as per in the seasons.

Seasons /	India	Brazil
Summer		
Winter		

Observe the pictures given below from figure 4.6 to 4.13 and write a brief description about them.



Figure 4.6 (a) : Traffic Jam Due to Rainfall (Brazil)



Figure 4.6 (b) : Traffic Jam Due to Rainfall (India)



Figure 4.7 : Dry land in drought affected region (India)



Figure 4.8 : Snowfall (India)



Figure 4.9 : Rainfall (Brazil)



Figure 4.10 : Deforestation (Brazil)



Figure 4.11 : Well- A source of water (India)



Figure 4.12 : Drought Quadrilateral region (Brazil)



Figure 4.13 : Paddy farming (India)



Do you know?

- Temperature in Ganganagar in Rajasthan soars to 50° c in June.
- Kargil town often experiences temperatures as low as -48° C in winter.
- Mawsynram (11,872 mm) and Cherrapunji (11,777 mm) in East Khasi Hill district of Meghalaya are the wettest places not only in India but also in the world.
- The Jaisalmer in Western Rajasthan is driest part of India. It receives less than 120mm of rainfall annually.
- Tamil Nadu receives maximum rainfall during the retreating monsoon season.

Find out.

Cherrapunji and Mawsynram receive more than 11000 mm of rainfall. Shillong located very near to these places receives only 1000mm of rainfall. What could be the reason?

Give it a try.

Considering the location, extent of Brazil and India, look for the differences in the elements of climate like temperature and rainfall as per direction. Write a short note on it.

Do you know?

- Brazil is a tropical country. It normally does not receive snowfall. But in exceptional conditions, southern polar air masses reach the southern part of Brazil. This causes snowfall here. Snowfall has been recorded in 1879, 1957 and 1985.

Give it a try.

In which part of India are three crops grown in a year? How is this related to the rainfall over there?

Exercise

Q. 1. Write the names of the States/Regions in appropriate columns :

Bihar, Tocantins, Pernambuco, Alagoas, Eastern Maharastra, Western part of Rajasthan, Gujarat, Rio Grande Do Norte, Paraiba, Western Ghats, Eastern Himalayas, Western Andhra Pradesh, Roroima, Amazonas, West Bengal, Roraima, Rio Grande do Sul, Santa Catarina, Goa

States /Regions	India	Brazil
High rainfall		
Moderate rainfall		
Low rainfall		

(Note: Can you think of an easier method of answering this question?)

Q 2. State whether right or wrong. Rewrite the wrong sentences

(a) The fact that Brazil lies on the equator affects its climate in a big way.

(b) India and Brazil have the same seasons at the same time.

(c) India faces tropical cyclones frequently.

(d) Brazil gets a lot of rainfall because of the southwest monsoon winds.

Q 3. Give geographical reasons:

(a) The northeastern part of Brazilian Highlands receives very less rainfall.

(b) Snowfall doesn't always occur in Brazil.

(c) Convectional type of rainfall is not prominent in India.

(d) Tropical cyclones occur rarely in Brazil.

(e) There is not much difference in the range of temperature in Manaus.

(f) India receives precipitation from the North-East Monsoon winds too.

Q 4. Answer the following questions:

(a) Describe in brief the changes occurring in the climatic conditions of India while going from south to north.

(b) Explain the importance of the Himalayas and the Indian Ocean with respect to the climate of India.

(c) Discuss the factors affecting climate of Brazil.

(d) Compare the climates of Brazil and India.

Q 5. With the help of the internet, obtain information regarding annual average temperatures of the continental location of Brasilia and Bhopal and explain it with the help of a graph.

SF36VS

5. NATURAL VEGETATION AND WILDLIFE



Figure 5.1 : Flora and Fauna of Brazil

Observe the images shown in figure 5.1 and discuss on the basis of the following points.

- Can you tell the names of the plants/trees shown in the image?
- Where have you seen these plants before?
- Name the fauna shown in the image.
- Where have you see them before?

You might have recognized the species shown above and discussed them, because there is similarity between them and many Indian species. But these species are found in Brazil. Look for their names. Now we will study about the variety of flora found in Brazil.

In figure 5.2, rainfall, flora and fauna of Brazil have been shown in the cross profile along with physiography. The change occurring in the above elements while going from north to south is clearly seen here. Discuss about this in the class and write a note about it.

Geographical explanation

Brazil Vegetation :

In Brazil, rainfall varies due to physiography. In most parts of the equatorial region, it rains throughout the year. As one moves away from the equator, the number of rainy days as well as amount of rainfall reduces. This affects the life cycle of the vegetation too.

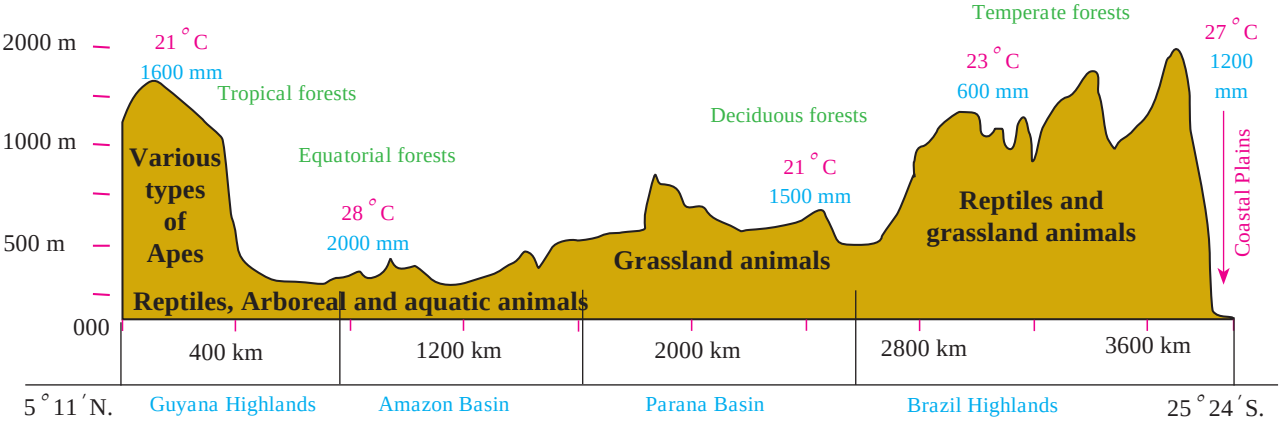


Figure 5.2 : Physiography, Natural Vegetation and Wildlife

Evergreen forests are found in the area where it rains throughout the year. In regions which receive rainfall only during certain seasons, the density of the vegetation reduces. Instead of forests, various types of grasses, short shrubs, thorny vegetation, etc. are found.

Brazil has the largest number of vegetation species in the world. This includes evergreen vegetation, semi-evergreen, arid, etc. One finds trees like Pau Brasil, rubber, mahogany, rosewood and a variety of orchids.

Because of the evergreen rainforests in Brazil, there is a large amount of oxygen that is released in the environment. This helps to reduce carbon dioxide levels. Therefore, these rainforests are rightly called the 'lungs of the world'.

INDIA VEGETATION :

Answer the following questions on the basis of figure 5.3

- Which forests are found in western snow--capped regions?
- On which coast do you mainly find the coastal vegetation?
- Which type of forests occupy maximum area in India ? Why?
- Where do you find thorny and shrub vegetation and why?

Geographical explanation

Following types of forests are found in India.

In regions which receive more than 2000 mm of rainfall on an average along with abundant sunlight , evergreen forests are found. The leaves of the trees in these forests are broad and green. The trees have hardwood, heavy and durable. E.g mahogany, rosewood, rubber, etc. Also, there are various types of creepers found here. Highest biodiversity is found in these forests.

In regions receiving rainfall between 1000 mm to 2000 mm in India, deciduous forests are found. In dry seasons, trees shed their leaves so that water is not lost due to evaporation. For e.g., teak, bamboo, banyan, peepal, etc are the trees found in these forests.

Regions that receive less than 500 mm of rainfall and experience dry summers for a long period in India , thorny and shrub-type vegetation is found. The leaves are small in size . for e.g. catechu, acacia, khejadi, and varieties of cactus like aloe vera and agave.

In swampy areas, estuaries and lagoons near coastal areas having saline soils and moist climate, coastal type of vegetation is found. They are called mangroves or Sunderbans in India. The wood of these trees is oily, light and durable.

Make friends with maps !

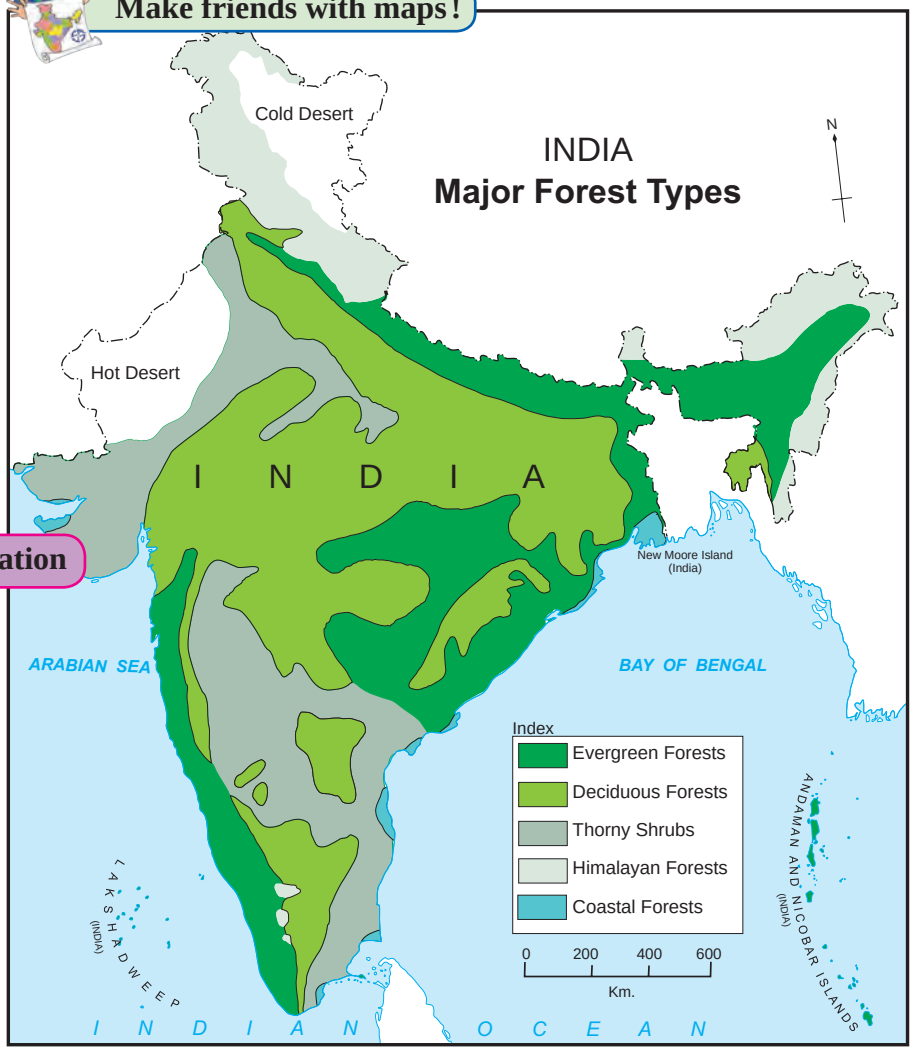


Figure 5.3

In Indian Himalayas, three types of forests are found according to the altitude. In areas located at the highest altitude, seasonally flowering trees are found. In regions with medium altitude, coniferous trees like pine, deodar , fir and at foothills mixed forests are found. This includes both coniferous and deciduous type of forests. Here,the proportion of sal trees is higher.

Brazil Wildlife :

On the basis of figure 5.4 , answer the following questions:

- Name the species shown on the map. Condor, Anaconda, Golden lion tamarin, macaw, etc,.
- In which regions are these animals found? Why are their habitats found in these forests?
- Classify the forest regions with reference to their extent.

Colours of Both

- In which country do equatorial forests occupy a greater area ? What could be the reason behind it?
- Which type of forests found in India are not found in Brazil?
- Which type of forests found in Brazil are found in India too?
- In which country a greater diversity of vegetation is found? What is the reason is behind it?
- Considering the climate and vegetation types, in which country will forest-based occupations flourish?

Geographical explanation

A greater diversity in wildlife is found in Brazil than any other country in the world. In the swampy areas of the Pantanal, huge anacondas are found. In Brazil, guinea pigs, crocodiles, alligators, monkeys, pumas, leopards, etc are found. Among the fish varieties, mainly swordfish are found in the seas while pink dolphins and piranhas are found in the rivers . Condors which are huge in size and fly high in the sky, various types of parrots, macaws, and flamingoes are the major birds found here. Millions of insect varieties are also found here. As a result of these varieties, the wildlife of Brazil is very rich and diverse.

Degradation of environment is happening due to illegal smuggling of wild animals, slash and burn agriculture (roka), deforestation, pollution, etc . Brazil

Make friends with maps!

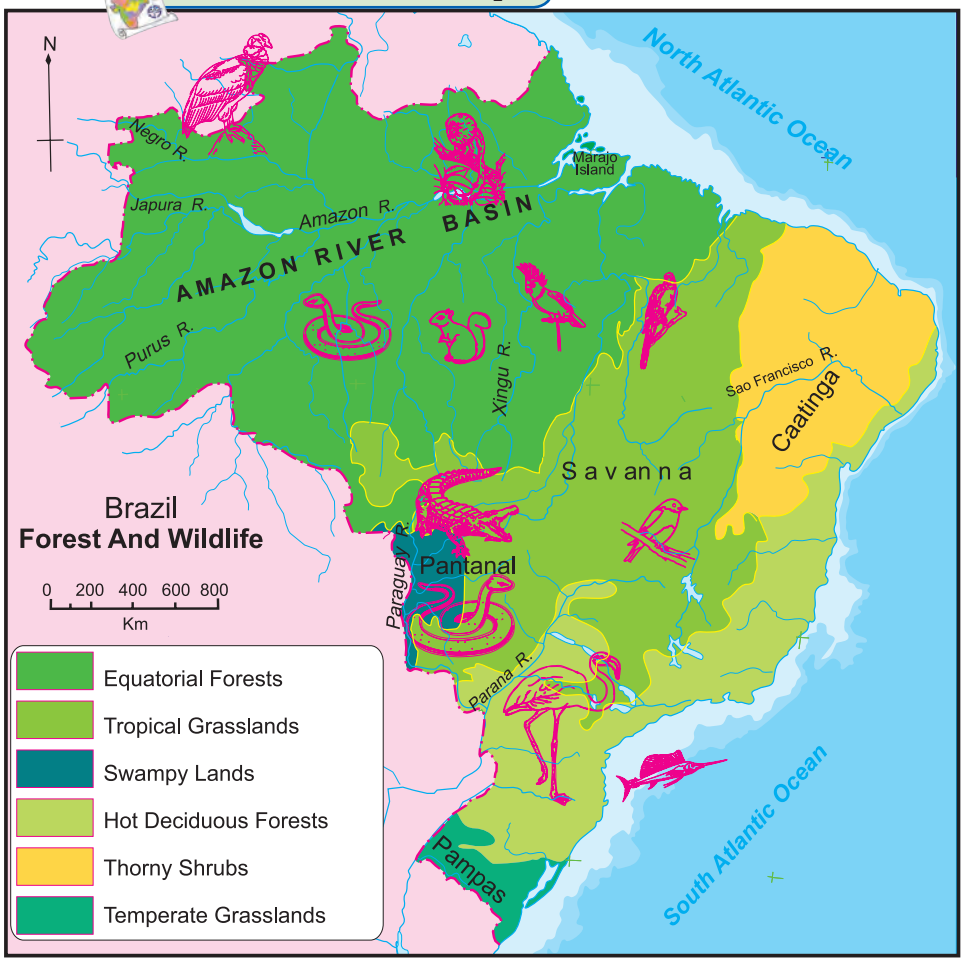


Figure : 5.4

is facing these problems today. Many endemic species are on the verge of getting extinct because of these issues.

Do you know?

A survey done in 2016 has found that approximately 5831 sq. kms. of land under forests in Brazil had already degraded in that year.

Try this.

India-Wildlife :

Show the following animals in outline map of India in fig 5.5 with the help of signs and symbols according to their habitats. Answer the following questions.

- Bengal Tiger
- Great Indian Bustard
- Olive Ridley Turtles
- One-horned rhinos
- Nilgiri Tahr goat
- Lion
- Gangetic Dolphin
- Swamp deer
- Crocodiles
- Gharials (Alligators)

- Correlate geographical conditions and the flora and fauna there.
- Do you know some other animals too ?
- Show the habitats of tigers in India with their names on a map.
- Why is their habitat found in these regions?

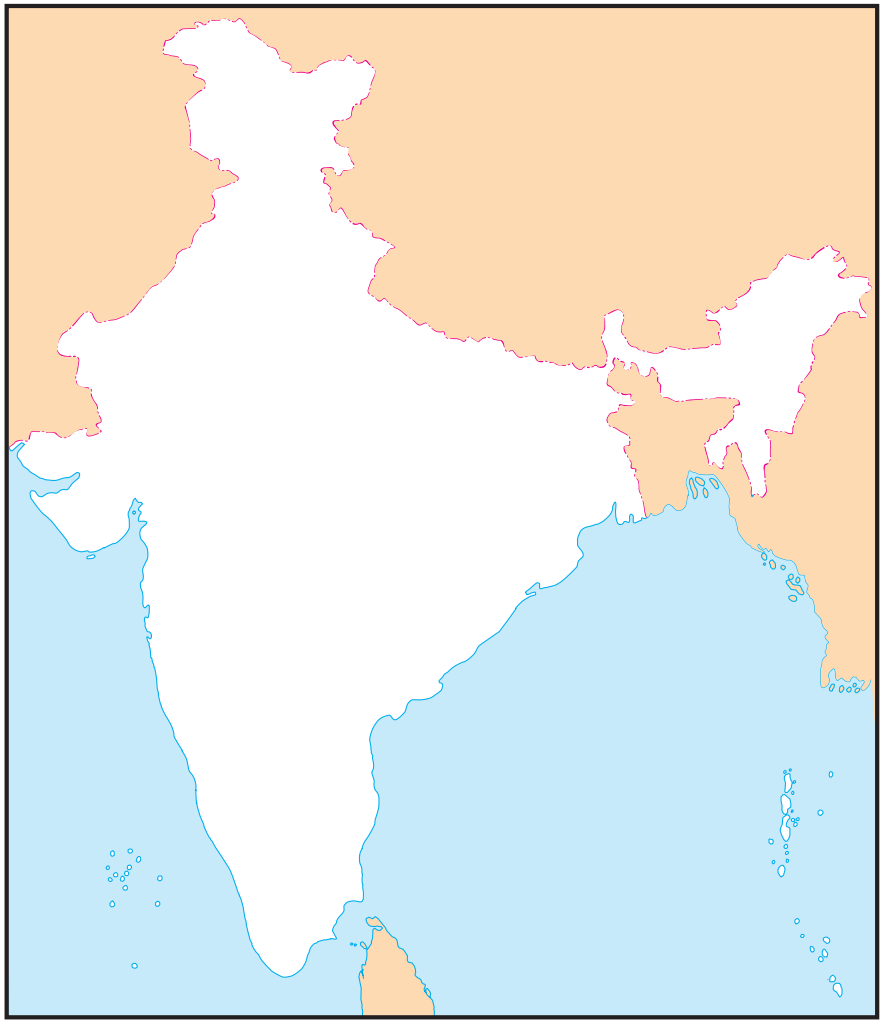


Figure : 5.5

Geographical explanation

India is also a Mega-diverse country in terms of wildlife There are many species of wildlife in India. Elephants are found in hot and humid forests. One-horned rhinoceroses are found in swampy and marshy lands of Assam. Wild ass and camels are found in arid lands. Snow leopards and yaks are found in the snow-capped regions of Himalayas. Indian Bisons, deer, antelopes and monkeys are found in the Peninsular region. India is the only country in the world where both tigers and lions are found.

Rivers, estuaries and coastal areas are homes of many turtles, crocodiles and gavials (gharial). The forests and wetlands are the shelters of variety of birds like Peacocks, Indian bustard, Kingfishers, pheasants, ducks,

parakeets, cranes and pigeons. All these species make it a land of unique habitat of wildlife.

Many species of wildlife are on the verge of extinction from India because of poaching, pollution and rapidly occurring deforestation.e.g. cheetahs. The Government of India has set up number of national parks, wildlife sanctuaries, bird sanctuaries and biosphere reserves for the protection of wildlife and forests in India.

Give it a try.

Tiger is the national animal of India. The number of tigers is decreasing day by day. The situation is similar to elephants. Find information about such plants and animals. Find about their habitats. What should be done to conserve these animals? In which regions can this be done? Make a presentation of their possible places.

Use your brain power !

☞ Find out in which parts of India is agriculture practice like the 'Roca' found in India? By what names are they called?

Exercise

Q 1. On the basis of the information given in the chapter, figures and maps, complete the table below:

Sr.no.	Type of Forest	Characteristics	Regions in India	Regions in Brazil
1	Tropical Forests	1.Broad-leaved evergreen trees		
2	Semi arid thorny vegetation	1. 2.		
3	Savannah	1. Scanty bushes and shrub-like trees and rain-resistant grass		
4	Tropical semi-deciduous	1. Mixed type of vegetation		
5	Grasslands	1. Grassland region like the Pampas of Argentina		

Q 2. Identify the odd man out

(1) Forest type of Brazil-
(a) thorny bush type vegetation
(b) evergreen forests
(c) the Himalayan Forests
(d) Deciduous forests

(2) With reference to India-
(a) Mangrove forests
(b) Mediterranean forests
(c) Thorny bush-type vegetation
(d) equatorial forests

(3) With reference to fauna of Brazil-
(a) Anaconda (b) Tamairin
(c) Macaw (d) Lion

(4) With reference to flora of India-
(a) Deodar (b) Anjan
(c) Orchid (d) Banyan

Q 3. Match the columns :

(a)	Evergreen Forests	(i)	Sundar trees
(b)	Deciduous Frests	(ii)	Pine
(c)	Coastal Forests	(iii)	Pau Brasil
(d)	Himalayan Forests	(iv)	Khejadi
(e)	Thorny and bush-type vegetation	(v)	Teak
		(vi)	Orchid
		(vii)	Sal

Q 4. Answer in short:

(a) Differentiate between the forest types of Brazil and India.

(b) Correlate wildlife and natural vegetation in India and Brazil.

(c) What environmental issues are faced by Brazil and India?

(d) What are the major causes of

degradation of forest in Brazil and India?

(e) Why does the deciduous type of vegetation occupy most of India?

Q 5. Give geographical reasons

(a) The northern part of Brazil is covered by dense forests.

(b) Vegetation is scarce in the high altitudes of Himalayas.

(c) A wide variety of species of insects is found in Brazil.

(d) Wildlife in India is decreasing day by day.

(e) Like India, there is need of conservation of forests in Brazil too.



Deodar

Roca **:** In Brazil , shifting agriculture is called Roca. In this method, the land under forests is cleared by cutting and burning . On this patch of land, subsistence type of agriculture is followed for next few years.



Pau Brasil



Pine



Khejadi

SFC2XF

6. POPULATION

Population is an important resource of any country. The qualitative aspects of a population are important for a nation's economic and social progress. Lets study the population of Brazil and India.

India :

Geographical explanation

India's population is around 121 crores according to Census 2011. India is the second most populous country in the world. India occupies only 2.41 per cent of the land area of the world whereas it supports 17.5 % of the world's population. India's average population density is 382 persons per sq.km. as per 2011 Census.

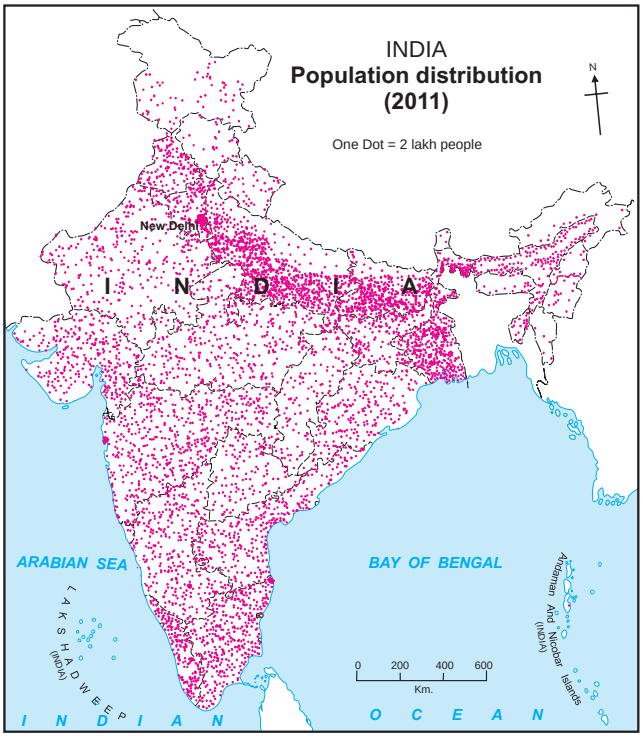


Figure 6.1 (a) : India - Distribution of Population

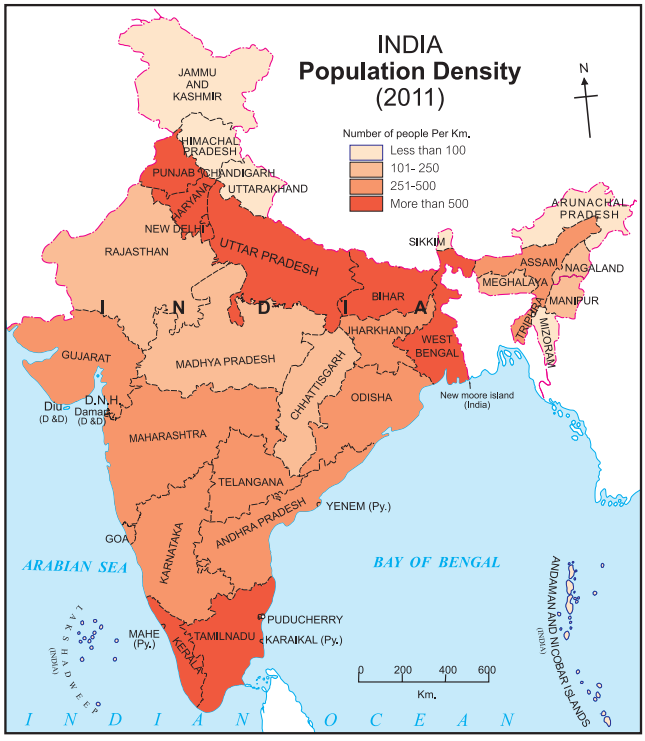


Figure 6.1 (b) : India Population Density

Study the maps in fig 6.1 a and 6.1 b and answer the questions.

- States with highest population density
- States with lowest population density
- On the basis of the maps given above, classify the distribution population in India in the following table.

Sr. No.	Pop Density (per sq. km.)	Name of the States/Union Terrifories
1	less than 100	
2	101 to 250	
3	251 to 500	
4	more than 501	

- Correlate the climate and physiography of India with its population distribution and write a note on it

In India, population is very unevenly distributed. Physiography and climate play an important role in the distribution of population. Due to the fertile land, plain land and availability of water, human settlements have been established in these parts for many centuries. Due to farming, industries and trade, the proportion of the population got concentrated in few places. For example, the northern plains of the country, Delhi, Kolkata, Mumbai, Pune, Bengaluru, Chennai, etc. On the contrary, in mountainous hilly regions, dry desert areas, dense forest areas, density is sparse because of inaccessibility, absence of facilities and tough life.

Brazil :

Observe figures 6.2 a and 6.2 b and answer the questions.

Make friends with maps !



Figure : 6.2 (a) : Population Distribution in Brazil



Figure : 6.2 (b) : Population density in Brazil

- In which area is population greatly concentrated?
- In which area is the distribution of population sparse?
- Prepare a note on factors responsible for the uneven distribution of population based on study of Brazil you have made so far.
- Identify the type of map showing distribution..

Geographical explanation

Brazil is the most populated country in the South American continent. With a population of around 19 crores, according to Census 2010, it ranks 5th in the world . It is also the fifth in the world with respect to area. Brazil occupies 5.6 % of world's total land and has 2.78% of world's total population. Therefore, the density of population is around 23 persons per sq.km.

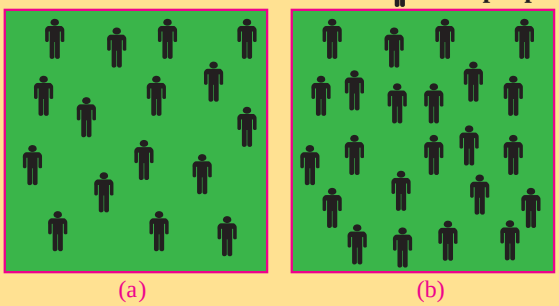
The distribution of population is very uneven in Brazil. The majority of Brazilians have concentrated within 300 kilometers of the eastern coastal plain. Therefore, agriculture and industries have flourished well here. As a result, higher density of population is found here.

On the other hand, the interior in the Amazon Basin is very sparsely populated. Unfavorable climate, heavy rainfall, inaccessibility and dense forests are the barriers to development of human settlements here. Therefore, settlements occur only in few places in the Amazon basin.

The central and western part of Brazil is less populated. The density of population in the highlands of Brazil is moderate.

Use your brain power !

= 80 people



- Calculate the population density of area shown in 1sq.km. of square in 'a' and 'b' each.

POPULATON COMPOSITION :

SEX RATIO :

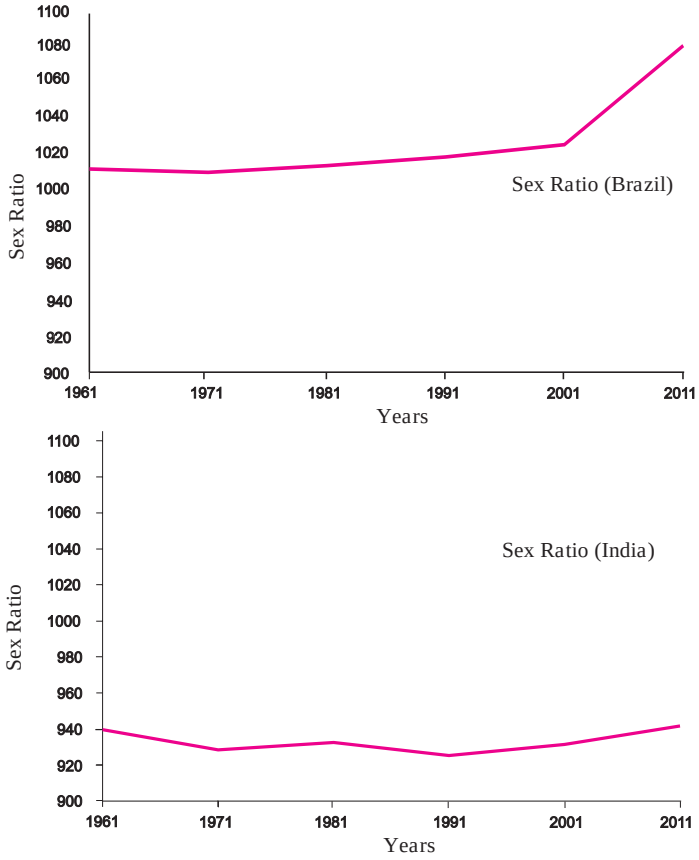


Figure 6.3

What does this graph show?



This graph shows the sex ratio of Brazil and India.



What is sex ratio?



Sex ratio means the number of females per 1000 males in region.



It is evident from the graph that the number of women in Brazil have always been more than men while in India they have never been more than men.



Geographical explanation

With reference to both the countries, the characteristics of population are prominently notable.

- The sex ratio of Brazil has been more than 1000 since decades.
- Considering the sex ratio of Brazil, the number of women have considerably increaesed than men since 2001.
- In India men outnumber women.
- In India we see fluctuations in the sex ratio since few decades. There has been a slight increase in the sex ratio after 1991.

Always remember –

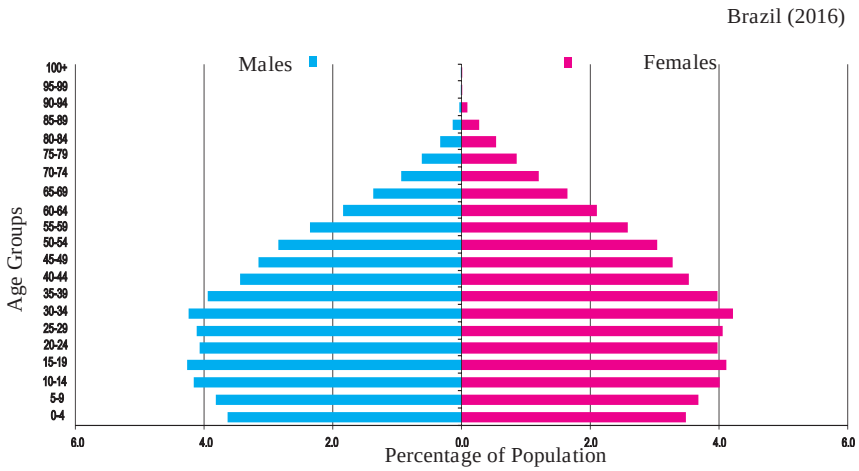


'Save Girl, Teach Girl' is the need of the hour in our country.

Give it a try.

- What could be the reasons of lower sex ratio in any region?
- In India, number of men outnumber women. Is this condition found in all the States of India? Find out!

AGE AND SEX PYRAMID :



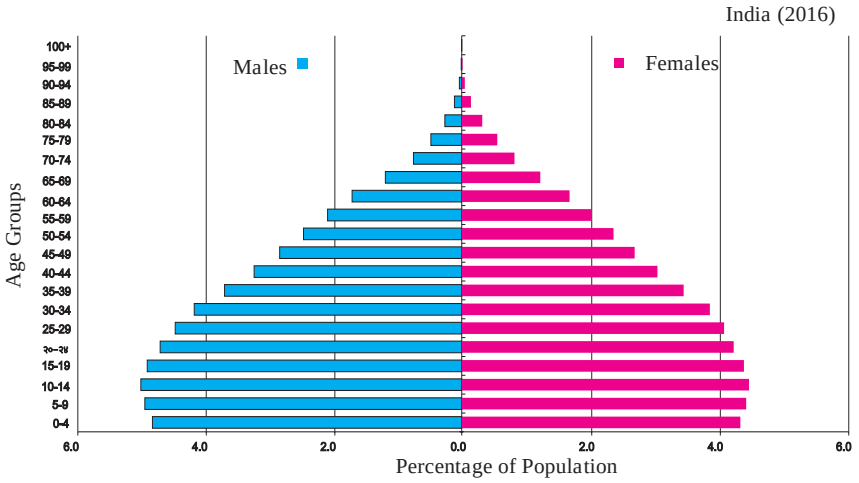


Figure 6.4

This graph looks different!



Yes, this graph shows age and sex of population. It is also known as population pyramid.



What is its use?



It is used to study the age and sex related aspects of a region's population



Does that mean that we can know the number or percentage of various age groups of males and females in our country?



Yes, of course. This helps us to know the proportion of children, youth and the old people in our country.



Geographical explanation

- Considering the age of population, Brazil's population is getting slowly older, but in India, the situation is different. The proportion of youth in India is more. This means India has a higher working population.

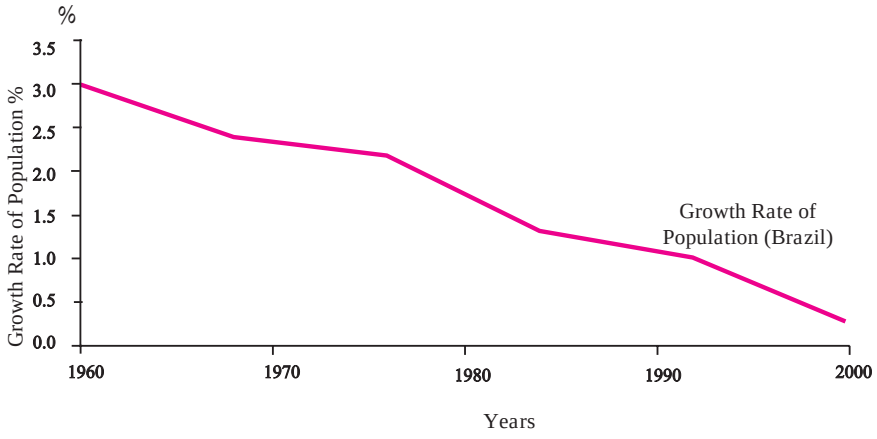
Try this.

- Using the graphs given above, find the differnce between the males and females of various age groups.
- In which age group is this difference the maximum?

In this pyramid, we can see that the number of young people is more in both the countries but the proportion of children is more in India while proportion of people in the age group than above 80 years india is more in Brazil.



POPULATION GROWTH RATE :



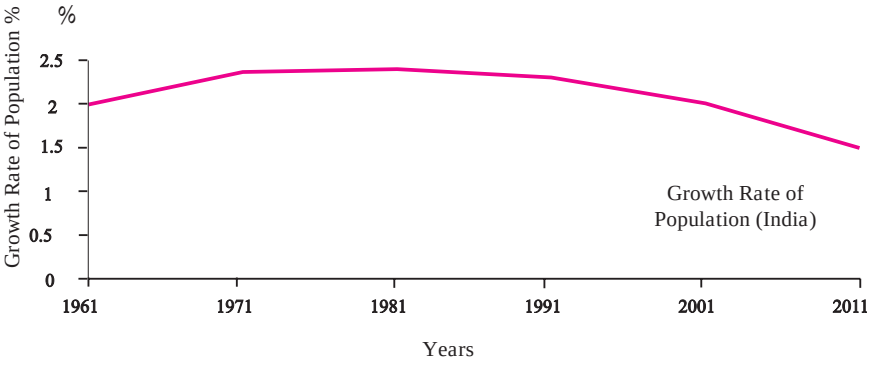


Figure 6.5

Geographical explanation

- The rate of growth of population has reduced considerably in Brazil. However, this is not the condition in India. From 2001 to 2011, India's population increased by 18.2 crores.
- India's population growth rate was higher till 1971. Then this rate stabilized. The rate of population growth is now declining; but the population is still growing.
- It is observed that in Brazil, the rate of growth is declining and Brazil's population may not increase in the next two decades.

What do these graphs show?



There graphs show the growth rate of population of Brazil and India.



Oh! But , here, the graph line is going down. Why?



Correct! Though the lines show a downward trend, it doesn't mean population is decreasing. It shows that the growth is lesser than the previous decade.



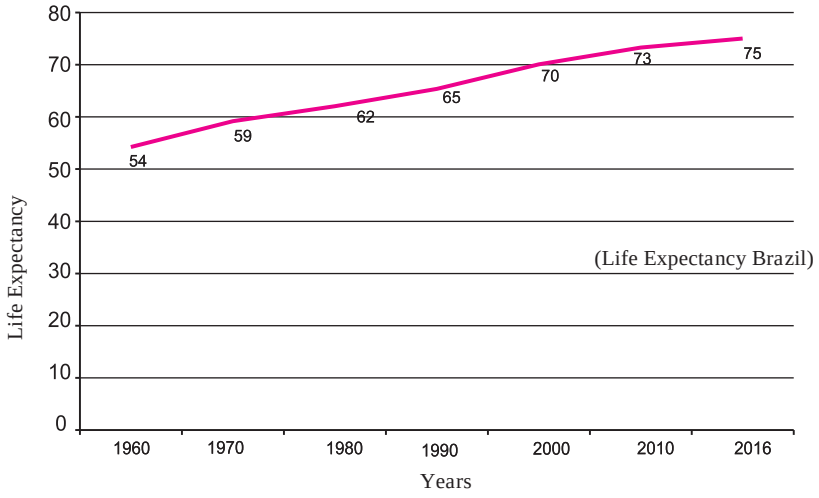
Does that mean that Brazil's population is decreasing?



No, this means that the growth is less and looking at the trend, in the near future, Brazil's population may decrease!



LIFE EXPECTANCY :



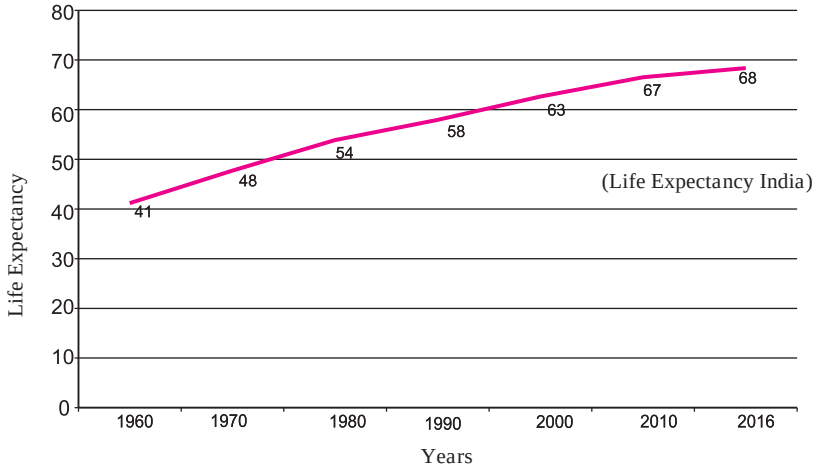


Figure 6.6

These graphs show the life expectancy of Brazil and India, don't they?



Yes, But what is life expectancy?



This means the average number of years a person born in a country is expected to live



This means that we Indians live for 68 years on an average



Yes, and Brazilians live for 75 years



The life expectancy of India was around 41 years in 1960. But now it has increased. It will continue to increase in future.



Geographical explanation

- Increase in life expectancy is an indicator of development of that society. Improvement in health facilities, progress in medical field, access to nutritious food leads to an increase in average life expectancy. In most of the developing countries, life expectancy is still less. But with socio economic development, it is increasing.



Use your brain power !

➢ Is there a relationship between increase in life expectancy and growth of population? If yes, how?

Literacy Rate :

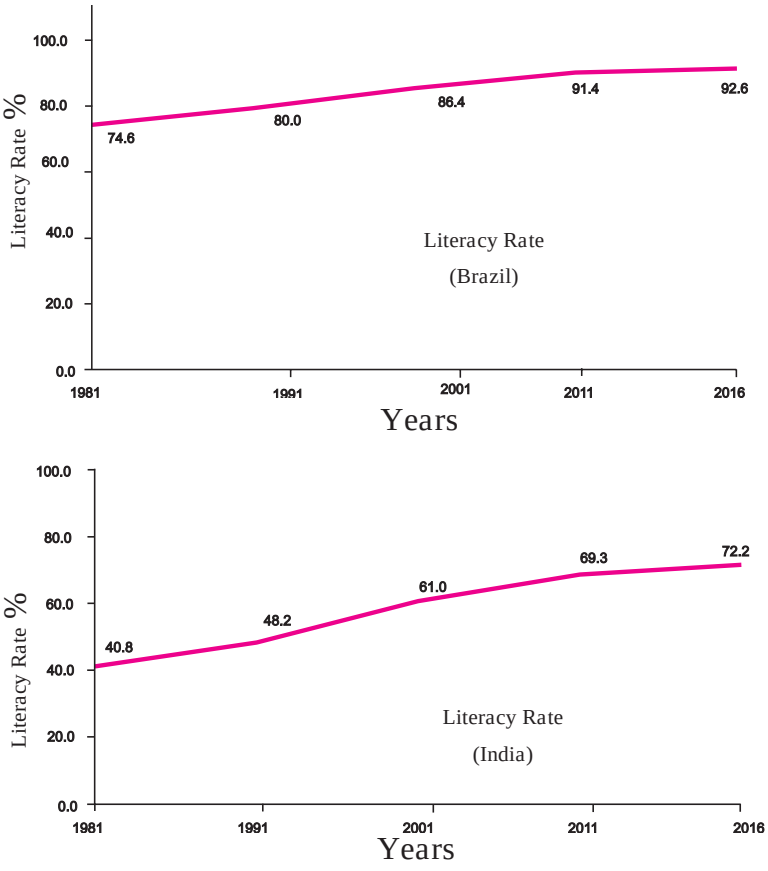


Figure 6.7

Colours of Both

From Fig 6.3 to 6.7, various aspects of population composition are given. Study the graphs, discuss and answer the following questions.

- Which country has a higher sex ratio?
- Which country has a higher literacy rate?
- Which country is growing at a faster rate?
- Which country's population has a higher life expectancy?
- Which country has a higher proportion of the old age people?

Think about it.

Considering the above discussion, what should be done so that our manpower is utilized properly, sex ratio improves and population growth is controlled? Write two to three sentences on each.

Try this.

Write a similar conversation using the graphs in Figure 6.7 based on the earlier conversations.

Use your brain power !

- If the proportion of dependent age groups increases in the composition of population, how will it affect the economy of a country?

Give it a try.

- Study the indices of density maps of both the countries. What difference do you find? What conclusions can you draw?

Do you know ?

Census of India conducts enumeration of population every ten years. Similarly, in Brazil, IBGE i.e. Brazilian Institute of Geography and Statistics, carries out census every ten years. The first census survey of both the countries was carried out in 1872.

In India, Census is conducted at the start of the decade. (1961, 1971, ...)

In Brazil, Census is conducted at the end of the decade. (1960, 1970, ...)

Exercise

Q 1. Are the following sentences right or wrong? Correct the wrong ones.

(a) Literacy Rate is higher in Brazil than India.

(b) In Brazil, people prefer living in the south east as compated to the north east.

(c) The life expectancy of Indians is decreasing.

(d) The north-western part of India is densely populated.

(e) The western part of Brazil is densely populated.

Q 2. Answer the questions as per the instructions :

(a) Arrange the following states of India in descending order of their population.

Himachal Pradesh, Uttar Pradesh, Arunachal Pradesh, Madhya Pradesh, Andhra Pradesh

(b) Arrange the states of Brazil in ascending order of their population : Amazonas, Rio de Janeiro, Alaguas, Sao Paulo, Parana

(c) Classify the factors affecting the distribution of population into favourable and unfavourable.

Nearness to sea, lack of roads, temperate climate, lack of industries, new cities and towns, tropical moist forests, minerals, semi-arid climate, cultivable land.

Q 3. Answer the following questions:

(1) Explain the similarities and differences between the population distribution in Brazil and India.

(2) Giving examples, correlate climate and population distribution.

Q 4. Give geographical reasons:

(a) Population is an important resource.

(b) Brazil's population density is very less.

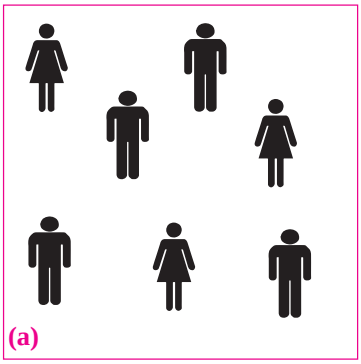
(c) India's population density is high.

(d) The density of population is sparse in Amazon basin.

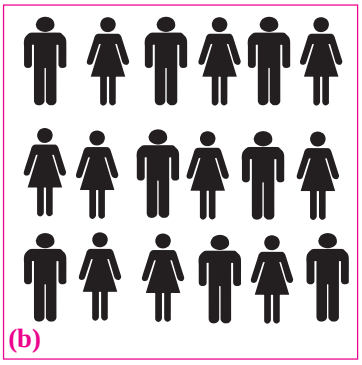
(e) Population density is high in the Ganga plains.

Q 5. (A) Compare and classify the population densities shown in the squares 'a' and 'b' representing 1 sq.km of area.

(B) If in figure B, one sign = 100, then what will be the sex ratio?



(a)



(b)

Q 6. Comment upon the population density of fig. 6.1 (b).

Activity :

Obtain the talukawise data of your district's population and show it with the help of a dot map.

SRQBDZ

7. HUMAN SETTLEMENTS

Examples of Settlement Patterns in India :



Figure 7.1 a



Figure 7.1 b

Study the two types of settlement patterns in India given in figure 7.1 (a) and 7.2 (b) Answer the following questions :

- Identify the type of settlements?
- Which one is a nucleated settlement? why?
- Which one is a dispersed settlement? What could be the reason behind it?
- Can you guess in which regions are these settlements located in India ?

Geographical explanation

In India, we can see a variety of settlement patterns given the variety of climatic factors, availability of water, slope of the land and level of development.

Nucleated settlements are found throughout the plateau region of Narmada Valley, paddy lands in Bihar, U.P, Vindhyan Plateau and several other cultivated parts of India.

On the other hand, dispersed settlements are found in tribal parts covering central part of India, eastern and southern Rajasthan, Himalayan slopes and land with dissected and uneven topography.

Think about it.

Tell whether settlements shown in images 7.1 (a) and (b) are urban or rural.

Let's recall.

Some amenities and facilities are given here. Tick (✓) in the relevant column and complete the table on the basis of their presence in urban and rural areas or both. And write five sentences on each with examples from your vicinity.

Amenity	Available in Villages	Available in cities
Petrol Pump		
Theatre		
Weekly Market		
Primary Health centre		
Police Outpost		
Art Gallery		
Gram Panchayat		
Agricultural Produce Market Committee (APMC)		
Primary School		
Senior School		
College		
Shop		
Multi-speciality Hospital		
Metro station		
Bus station		
University		

Examples of Settlement Patterns in Brazil :



Figure 7.2 a : The lowlands of Amazon River



Figure 7.2 b : Sao Paulo

Try this.

In the figure 7.2 a and b, you can see images of two settlements in Brazil . One is from the Amazon river basin in Brazil while the other belongs to the coastal area. Observe the settlement patterns carefully and name the types of settlement patterns. Write a comment on their density and types.

Geographical explanation

The earlier settlements in Brazil were formed by the settlers from Europe mainly in the costal areas. Now the settlements have developed and are densely populated. The major reasons of development are as follows

Although the coastal climate is hot and humid, and flat land is limited due to rugged topography, the region has a good water supply and a large range of natural resources. e.g. Sao Paulo.

Sao Paulo has extensive area under rich soil which makes it ideal for growing coffee. It also has a large supply of natural minerals close by, such as iron ore and it also has a steady energy supply. The South Eastern area has a good transport system too. This makes the Sao Poulo area a nucleated settlement. See Figure 7.3.

Rural areas such as the north-east Highlands suffer from extreme droughts, which make it difficult for practsing agriculture and hence settlements are sparse here.

Settlements become sparse as we move in towards the central part of Brazil. Given are the major reasons :

- Area is covered by thick dense equatorial rainforests (see fig. 7.4).
- The climate here is unhealthy and unfit for settlement.
- Limitations on use and exploitation of natural resources.
- Poor transport links in the region.



Figure 7.3 : City of Sao Paulo



Figure 7.4 : Rain Forest in Amazon River Basin

Urbanisation in India :

The level of urbanisation is measured in terms of percentage of urban population to total population.

Can you tell ?

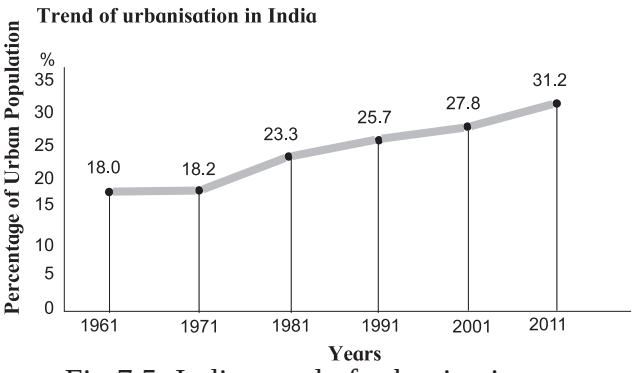


Fig 7.5: India-trend of urbanisation (1961- 2011)

Read the graph in fig 7.5 below and answer the following questions:

- What was the percentage of urbanisation in 1961?
- In which decade was urbanisation the highest?
- In which decade was the growth of urbanisation lowest?
- What inference can you draw regarding India's urbanisation after reading the graph?

Geographical explanation

It is clear from the above graph that the growth of urbanisation in India has been slow. The level of urbanisation in India in 2011 was 31.16% which is quite low in comparison to developed countries. At the same time, the urban population is increasing expansion of the urban centres and emergence of new towns have played a significant role in the growth of urban population and urbanisation in the country.

Urbanisation has been more in the southern part than in the northern part in India. Goa is the most urbanised state with 62% population living in urban areas. Delhi is more than 80% urban. In the state of Tamil Nadu, Maharashtra, Gujarat and Kerala urbanzation is more. Himachal Pradesh, Jammu Kashmir, Uttarakhand, Bihar, Rajasthan are some of the states with low levels of urbanisation.

Do you know ?

The Indian sub-continent has a long history since ancient times. Since ages, of the population of this country is living in river basins, on plateaus and mountains. Indraprastha (Delhi), Mithila, Varanasi, Harappa, Mohenjodaro, Ujjain and Pratishthan (Paithan) were the urban settlements of earlier times. This shows that India has a great tradition of urbanisation.

Urbanisation in Brazil :

Try this.

Look at the table on page 49. It shows the growth of share of urban population in total population of Brazil. Draw a line graph from

Give it a try.

Prepare a choropleth map showing urban population using the data given in the table below.

Source: Census 2011

S.NO	Urban population percentage category	States /UTs falling in the category
1	0-20	Himachal Pradesh, Bihar, Assam, Odisha
2	21-40	Meghalaya, Uttar Pradesh, Arunachal Pradesh, Chhattisgarh, Jharkhand, Rajasthan, Sikkim, Tripura, Jammu & Kashmir, Nagaland, Manipur, Uttarakhand, West Bengal, Andhra Pradesh, Haryana, A & N Islands, Punjab, Karnataka, Madhya Pradesh
3	41-60	Gujarat, Maharashtra, Dadra & Nagar Haveli, Kerala, Tamil Nadu, Mizoram
4	61-80	Goa, Puducherry, Daman & Diu, Lakshadweep
5	81-100	Chandigarh , NCT of Delhi

this table. Examine the graph carefully and answer the following questions

Brazil Percentage of urban population (1960 to 2010)

1960	1970	1980	1990	2000	2010
47.1	56.8	66	74.6	81.5	84.6

- What is the interval of the data?
- In which period did urbanisation occur rapidly?
- Write five sentences analysing the graph.

Geographical explanation

Brazil is one of the few developing countries which is highly urbanised. Brazil's substantial urban growth process is unique and one of the underlining factors contributing to its present-day rapid economic growth. Today, about 86% of Brazil population lives in urban areas.

Definition of 'urban' is not very clear in Brazil. In Brazil, rapid urbanisation happened mainly in the South and South-east with Sau Paulo emerging as a major, metropolitan and industrial area. Looking at this growth in few parts of the country, the government is promoting "Go West" policy which will reduce pressure on few areas where population is concentrated and will reduce regional imbalance in the country.

Study the choropleth map of Brazil showing the Statewise urban population of Brazil and answer the following questions

- Which States (region) are the most urbanised?
- Which States (region) are the least urbanised?

Colours of Both

- Compare the line graph shown in figure 7.5 and the one drawn by you for Brazil. Write five lines on the changes in that have occurred urbanization in both the countries with time.
- Make a short note on comparison between settlement patterns in India and Brazil (Fig 7.1 and 7.2) on the basis of following points: i) Location ii) pattern iii) types iv) density

Give it a try.

Observe the two satellite images given below. Describe the settlements with respect to physiography. Considering the physiography, where could these settllements be located? Find out their settlement pattern and limitations with respect to their future growth.





Make friends with maps!



Figure 7.6

Use your brain power!

- Which factors have affected urbanisation in Brazil?

Geographical explanation

As you can see from the map, urbanisation has occurred more in the coastal states than the states in the interior of the country. States like Sao Paulo, Goias and Minas Gerais have more urban population than states in the North.

As population is less in Amazon basin and Brazilan highlands, urbanisation is also less. In this part, Manaus is a port on the confluence of the Negro and the Amazon. Urbanisation has occurred here.

Colours of Both

Write a paragraph on the settlement pattern, urban and rural settlement and urbanisation in India and Brazil.

Exercise

Q 1. Tick (✓) the correct options :

(a) The concentration of settlements is related to following major factor
- (i) Proximity the to Sea ☐
- (ii) Plain region ☐
- (iii) Availability of water ☐
- (iv) climate ☐

(b) In North-eastern part of Brazil, which types of settlements are found?
- (i) Nucleated ☐
- (ii) Linear ☐
- (iii) Dispersed ☐
- (iv) star-shaped ☐

(c) Where do you find dispersed settlements in India?
- (i) Near the rivers ☐
- (ii) Near the transport routes ☐
- (iii) Hilly areas ☐
- (iv) industrial regions ☐

(d) Concentrated settlements are found in Narmada Valley-
- (i) Forested Land ☐
- (ii) Cultivable Land ☐
- (iii) Undulating topography ☐
- (iv) industries ☐

(e) Which State has the least urbanization in Brazil ?
- (i) Para ☐
- (ii) Amapa ☐
- (iii) Espirito Santo ☐
- (iv) Parana ☐

Q 2. Give geographical reasons:

(a) Availability of water is a major factor affecting settlements.

(b) In Brazil, majority of population is found in the eastern coastal areas.

(c) Urbanization is increasing rapidly in India.

(d) Settlements are sparse in north-eastern Brazil.

(e) Except Delhi and Chandigarh, urbanization is low in other parts of India.

Q 3. Answer in short:

(a) Write a comparative note on urbanisition in Brazil and India.

(b) Diffrentiate between the human settlements in Ganga river basin and the Amazon river basin.

(c) Why do human settlements grow in specific locations only?

Activity :

With the help of Internet and reference books, obtain information regarding "Go West" in Brazil and "Go to Villages " in India. Discuss their objectives and effects in class.

SRZ7FM

8. Economy and Occupations

Give it a try.

Read the following graph and answer the questions:

Gross National Incomes (GNI) from 1960 to 2016 (in million US $)

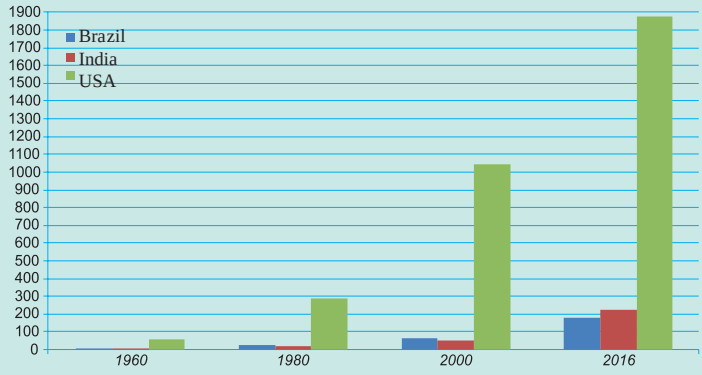


Figure 8.1

- Which country's national income was highest in 2016 and was it how much?
- Comparing India and Brazil, which country had a higher national income in 1980?
- Comparing India and Brazil, which country had a higher income in 2016?
- Tell the difference between the GNP of Brazil and India in 2016.
- Calculate the difference between the national incomes of developed and developing countries in 2016.

Try this.

A table regarding the ownership of various sectors in both the countries is given. Like Brazil, fill the details regarding India and complete the table.

India	Sector	Brazil
--	Banking	Private and Public both
--	Railways	Private and Public both
--	Airways	Private and Public both
--	Electricity production	Largely public
--	Iron and Steel Industry	Largely Public
--	Health	Private and Public both
--	Education	Largely public, little private
--	Telecommuni-cations	Private and Public Both

- On the basis of the information about the ownership of various sectors in both the countries given in the table, can you infer about the type of these economies?

Geographical explanation

An economy of a country depends on the economic activities carried out in the country. You have learnt that there are 3 types of economic activities in an economy.

Let's recall.

Classify the following activities in by ticking (✓) in the respective column.

Activities	Primary	Secondary	Tertiary
Television Broadcasting			
Bee-keeping			
coir and Rope making			
Jaggery- making			
Producing blades of the plough.			
Construction			
Extracting Iron Ore			
Automobile Production			
Rice Production			
Teaching			
Driving buses			
Providing lodging and boarding facilities			

Economic activities in Brazil and India :

In figure 8.2, the pie-charts show the contribution of each sector in the respective country's GDP and the percentage of population engaged in various activities. Read both the pie-charts carefully and answer the following questions.

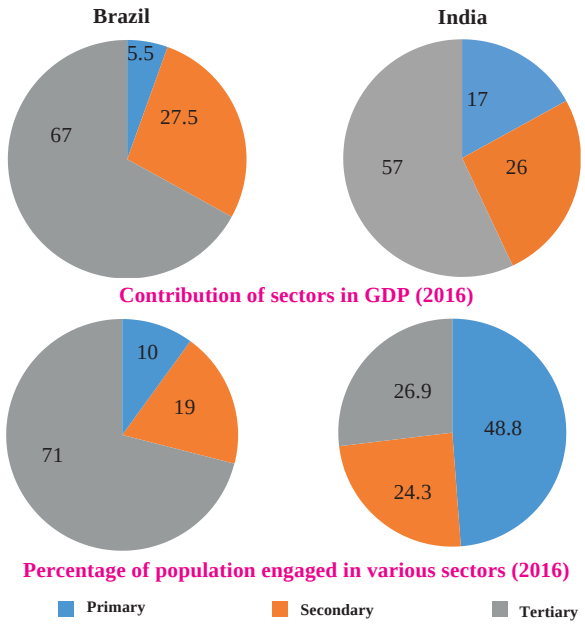


Figure 8.2

- Which country has a higher percentage of population engaged in primary activities?
- In which country is the contribution of tertiary sector greater in the GDP?
- In which country is the share of secondary activities more in the GDP?
- Can we say that Brazil is an agrarian economy like India? Give reasons.

Geographical explanation

In fig 8.1 we saw that India has a higher national income than Brazil. Brazil is one of the world giants of mining, agriculture, and manufacturing, and it has a strong and rapidly growing service sector. On the other hand, India is still dependent on agriculture, though service sector is also increasing in India.

Like the Indian economy, the Brazilian economy is also a mixed economy. Both the Indian and the Brazilian economies are developing economies. Their per capita incomes are very less as compared to the developed countries like the USA. It is interesting to note that though India has a higher national income as compared to Brazil, the per capita income of India is lower than Brazil. Can you think of a reason for the same?

Use the following table and make a polyline graph with the help of computer.

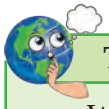
Per Capita Income from 1960 to 2016 (in US $)

.Country Name/Year	1960	1980	2000	2016
Brazil	240	2010	3060	8840
India	90	280	450	1680
USA	3250	14230	37470	56280

The United States is a developed country. The population of this country is well educated. This country has the strength of many patents, modern technology and mechanical strength. This country is far ahead of Brazil and India in terms of national per capita income

India and Brazil are developing countries. These countries are progressing in the field of technological advancement, education and industry.

The national per capita income of the countries is low. India's per capita income seems to be even lower as India's size is very large.



Think about it.

Which type of occupations gives a boost to the development of a country's economy?



Make friends with maps!

Look at the map given in Fig 8.3. The major primary occupations in Brazil are shown here. Discuss the following points and write your observations in the notebook.

- In which part of Brazil is coffee mainly produced?
- Which food crops are mainly grown in Brazil?
- Can you relate the production of these crops with the climate there?
- Where are the rubber plantations concentrated?
- Complete the table.

Type of crops	Crops	Areas of production
Food crops		
Cash Crops		
Fruits and Vegetables		

Geographical explanation

Agriculture : In Brazil, agriculture is the main occupation of the people living in the highlands and coastal areas. Favourable climate and topography make it possible for growing a variety of crops. Rice and maize are the main cereal crops. Production of maize is largely concentrated in the central part. Commercial crops like coffee, cocoa, rubber, soyabean and sugarcane are cultivated on a large scale. Brazil is the largest exporter of coffee and soyabean in the world. The major states growing coffee are Minas Gerais and Sao Paulo. Besides these crops, production of fruits like bananas, pineapples, oranges and other citrus fruits is also done. Cattle, sheep and goats are also reared in the Savannah grasslands in the south. Consequently, meat and dairy products are produced on a large scale.

Mining :

Observe the fig 8.3 and answer the following questions.

- Prepare a table of mining products and regions of production in Brazil.
- In which part of Brazil has mining activity not developed? What could be the reasons?
- Considering the availability of resources, were has the development of industries occurred?

Make friends with maps !

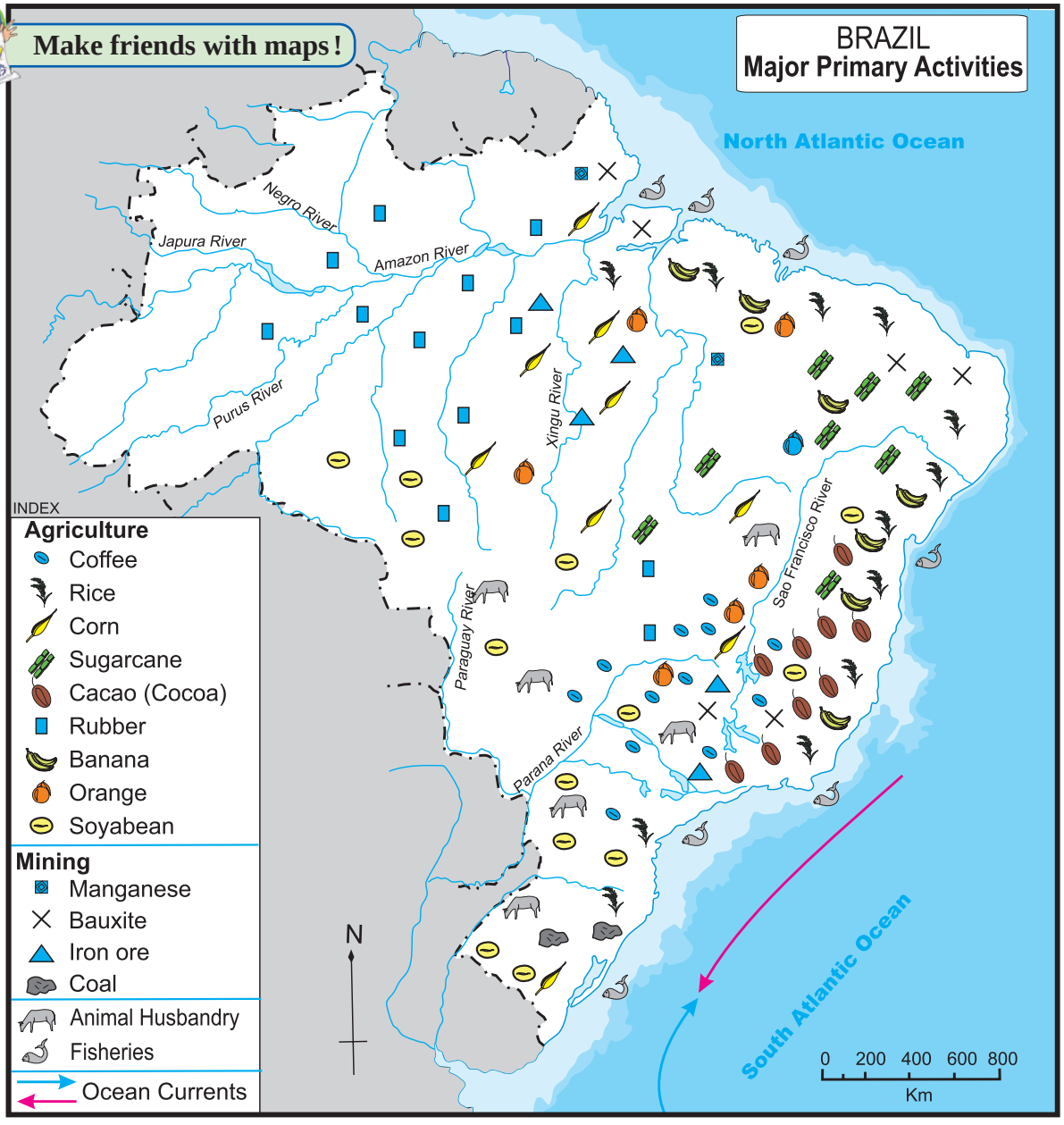


Figure 8.3

Geographical explanation

The eastern part of Brazil is rich in various types of minerals like Iron ore, manganese, nickel, copper, bauxite, tungsten, diamonds, etc. Inaccessibility, lack of knowledge of potential reserves of resources, dense forests, etc are factors which have led to limitations in mining in the interior parts of the country. Nevertheless, because of increasing demand in the country, mining work has developed well in the highland region.

Fishing :

Answer the questions on the basis of fig 8.3.

- Can you give two reasons of concentration of fishing near the south-eastern coast of Brazil,?
- Inland fishing is not developed in Brazil though there is large number of rivers in Brazil. Can you think of a reason?

Let's recall.

Name the warm and cold ocean currents near Brazilian coasts.

Do you know ?

The United States Dollar is used during international transactions at the international level. $ is the symbol of this currency. Brazilian Real (BRL) is the currency of Brazil. R$ is the symbol of this currency. ₹ is the symbol of Indian currency.

One American dollar = R $ 3.1297

One US $ = ₹ 64.153

(Note- These rates of currency are always changing.)

Give it a try.

The following images are related to agricultural activities. Identify and write whether they are practiced in Brazil or India.









Geographical explanation

Brazil has a sea coast of around 7,400 km and excellent fishing grounds off the South Atlantic coast. The meeting of the warm Brazil current and the cold Falkland current off the coast of south-east Brazil makes it a good fishing ground. Traditionally, fishing has been carried on by small groups of individual fishermen using primitive techniques and equipment. But now, large vessels are being used. Swordfish, shrimp, lobsters and sardines are mainly caught. The fish resources of the

Amazon River are not exploited much and fishing only takes place on a small scale.

Agriculture in India :

Try this.

- Show the distribution of crops like wheat, jowar, rice, cotton, sugarcane, tea and apple in the outline map of India. using symbols Name the map.

Geographical explanation

Unlike Brazil, India's agriculture contributes more towards GDP and also engages a larger chunk of population. Around 60% of land in India is under cultivation. Its enormous expanse of level plains, rich soils, high percentage of cultivable land, wide climatic variety, long growing season,etc provide a strong base to agriculture. In India, agriculture has been a long standing activity.

Indian agriculture is mainly subsistence type. India produces rice, wheat, maize, sorghum and millets as major food crops; plantations of tea, coffee, rubber and cash crops like sugarcane, cotton, jute, etc are also produced. India is also a major producer of a variety of fruits and vegetables.

Fishing in India : Fishing plays an important role in the economy of India. India is one of the largest producers of fish, both marine and inland. Fisheries help in augmenting food supply, generating employment, raising nutritional level and earning foreign exchange.

Fish forms an important part of the diet of many people living in the coastal areas of Kerala, West Bengal, Orissa, Andhra Pradesh, Tamil Nadu, Goa and Maharashtra. India has about 7500 kms of coastline. Marine fishing accounting for about 40 per cent of the total annual production of fish and being confined to coastal waters in the west from Kachchh, Malabar coast to Coromandal coast in the east Major fishes are sardines, mackerel, Bombay duck,and prawns. On the eastern coast, the important fish are horse mackerels, clupeids and silver bellies.

Freshwater fishing is carried on in rivers, canals, irrigation channels, tanks, ponds, lakes, etc. Silver bellies carp (chopda) etc. are major freshwater varieities. About 60 per cent of the country's total fish production comes from inland fisheries.

Find out.

Obtain information regarding pisciculture in India with the help of internet and reference books and write a note.

Mining In India : The Chhota Nagpur plateau in India is a big storehouse of different minerals. Mining is the main occupation of the people there. Coal is mined in Korba in Chattisgarh and in eastern Maharashtra. Mineral oil wells are found in Digboi in Assam, Mumbai High in Arabian Sea near Maharashtra, Kalol and Koyali in Gujrat. Reserves of minral oil and natural gas have been discovered at the mouth of river Godavari. Stones like marble are found in Rajasthan and Cuddapah in Andhra Pradesh.

Industries in Brazil :

Major industries include iron and steel production, automobile assembly, petroleum processing, chemicals production, and cement making; technologically based industries have been the most dynamic in recent years, but have not outpaced traditional industries. Similarly, food-processing like, sugar industries, cotton textiles, silk and woolen industries have developed well. Most of large industries are concentrated in the south and south east. The north east is traditionally the poorest part of Brazil, but it is beginning to attract new investment.

Let's recall.

With the help of the pie chart given in fig. 8.2, tell what is the contribution of secondary activities in Brazil's GDP ?



Figure 8.4 : Logos of Various Industries

Industries in India :

Look at fig 8.4. Observe the logos given

- Identify the industries with which they are associated.
- Which raw material is used for these industries. Classify them accordingly
- From which part of India do they get these raw materials? Discuss and write.

The distribution of industries in India is highly uneven. This is so partly on account of uneven distribution of the necessary raw materials and power resources and partly due to the concentration of enterprises, financial resources and other necessary conditions in large towns.

Jharkhand, Orissa, adjoining Chhattisgarh, Madhya Pradesh, parts of Rajasthan, Karnataka and Tamil Nadu account for most of the reserves of metallic minerals. This area, therefore, particularly the north-eastern part of the peninsula, has a very high concentration of heavy metallurgical industries with almost all the steel centres situated here. Availability of large quantities of coal and refractory materials, along with cheap power from the Damodar-Valley Corporation and a number of thermal power projects, have added to the advantages. Rajasthan has copper, lead and zinc; Karnataka has steel, manganese and aluminium; and Tamil Nadu has aluminium metal industries.

Agro-based industries including cotton, jute and sugar are heavily concentrated in the raw material-producing areas. The forest-based industries including paper, ply wood, matches, resins and lac are in the forest areas of various states. The coastal belt of Kerala has a heavy concentration of coir, copra and fish canning industries.

Koyali, Digboi, Noonmati and Bongaigaon refineries are situated close to the petroleum producing areas, and Mathura and Barauni refineries in the interior, away from the coast and oil-producing areas. The distribution of cement industry is also highly conditioned by the availability of raw materials.

Gujarat, Rajasthan and Tamil Nadu produce the bulk of salt in the country. Mechanical engineering, electricals, automobile, fertiliser, and numerous consumer industries, which show little bias for raw material, have come up all over the country with heavier concentration near the big cities.

Let's recall.

Trade : Read the adjoining table and answer the following questions.

- What is balance of trade?
- Tell the types of balance of trades.
- In which country export exceeds import in all the years?
- Brazil's balance of trade belong to which type?
- India 's balance of trade belong to which type?

Export, Import and Balance of Trade (Value in US $)

	India		Brazil	
Year	Exports	Imports	Exports	Imports
2009-10	178751.4	288372.9	152994.7	127647.3
2010-11	251136	369770	197356.4	180458.8
2011-12	304623.53	489181.3	256038.7	226243.4
2012-13	214099.8	361271.9	242579.8	223149.1

Use your brain power !

If Rajasthan does not have a coastal area, then how does it produce salt?

Geographical explanation

Brazil mainly exports iron ore, coffee, cocoa, cotton, sugar, tobacco, oranges and bananas while it imports machinery, chemical products, fertilisers, wheat, heavy vehicles, mineral oil and lubricants.

Major trading partners are Germany, USA, Canada, Italy, Argentina, Saudi Arabia and India.Trade makes up about 25% of GDP. See fig 8.5 below and compare it with India.

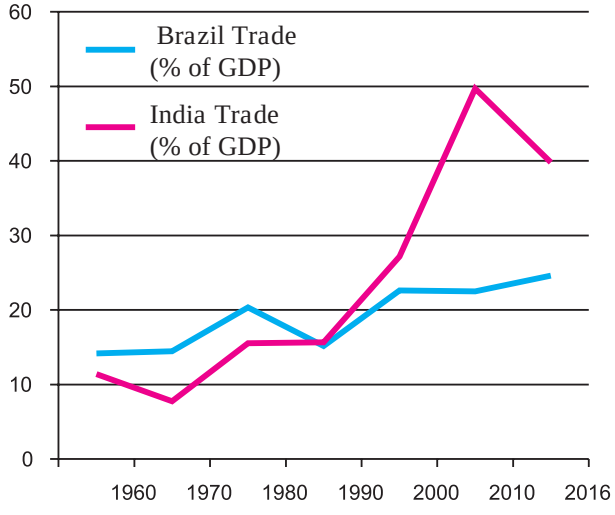


Figure 8.5 : Contribution of trade in GDP

Geographical explanation

India mainly exports tea, mangoes, coffee, spices, leather and leather goods, iron ore, cotton and silk textiles while it mainly imports petroleum, machines, pearls and precious stones, gold and silver, paper, medicines, etc.

India's major trading partners are the UK, the USA, Germany, Japan, China, Russia, etc.

Colours of Both

Indo-Brazil ties :

Answer the following.

- What does BRICS stand for?
- When was it established?
- What are the objectives of this bloc??
- The countries of which continent are not a member of this bloc?
- In which continents do the member countries lie?



Through BRICS, Brazil has opened up a strategic partnership with India. There have been agreements for bilateral investments between India and Brazil.

Fig 8.6 shows the trade between India and Brazil. Study the graphs and answer the following questions.

- In which year the value of exports to Brazil exceeded the imports from Brazil?
- In which year the trade with Brazil was most favourable of all?
- Comment upon the Balance of Trade in the year 2013.
- From which year the value of exports to Brazil have exceeded the value of imports from Brazil?
- Write a note on the trade between Brazil and India.

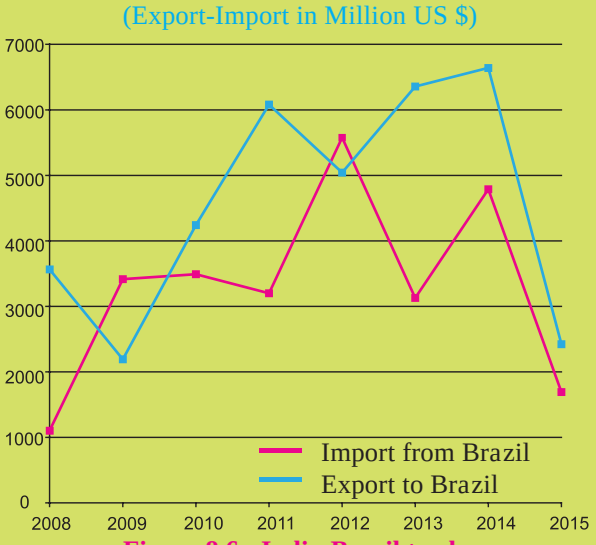


Figure 8.6 : India-Brazil trade

Geographical explanation

Indian companies set up industrial centres all over Brazil and invested lot of capital. The Indian companies have invested in such sectors as IT, pharmaceuticals, energy, agri-business, mining, engineering and auto sectors.

Brazil's footprint in India is smaller but important. The Brazilian companies have invested in automobiles, IT, mining, energy, biofuels, footwear sectors in India.

Do you know?

Brazil has been the largest producer of coffee for the last 150 years. The plant, belongs originally to Ethiopia. It was first brought to Brazil by some French settlers who established in the state of Pará in the early 18th century. Coffee farms are called fazendas.

Do you know?

Taxes are an important part of the economy and trade of any country. India has now switched to the GST (Goods and Service Tax) which aims towards one tax all over the country on various commodities and services. Brazil too has adopted the system from 1984.

Like India, in Brazil too GST has various slabs.

Exercise

Q. 1. Fill in the blank with appropriate word.

(a) India's per capita income is less than Brazil due to _____.

(i) Low national income

(ii) Massive Population

(iii) Big family size

(iv) Low foodgrain production

(b) The economy of Brazil is mainly dependent on the ----------activities there.

(i) Primary (ii) Secondary

(iii) Tertiary (iv) Quaternary

(c) The economies of India and Brazil are of the ---------- type

(i) Undeveloped (ii) Developed

(iii) Developing (iv) Highly developed

Q. 2. Answer the following questions:

(a) Why has mining not developed in the western part of Brazil?

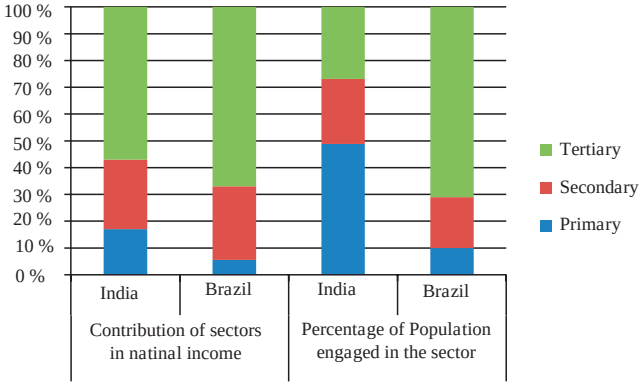
(b) What are the similarities and differences in the fishing activities in Brazil and India

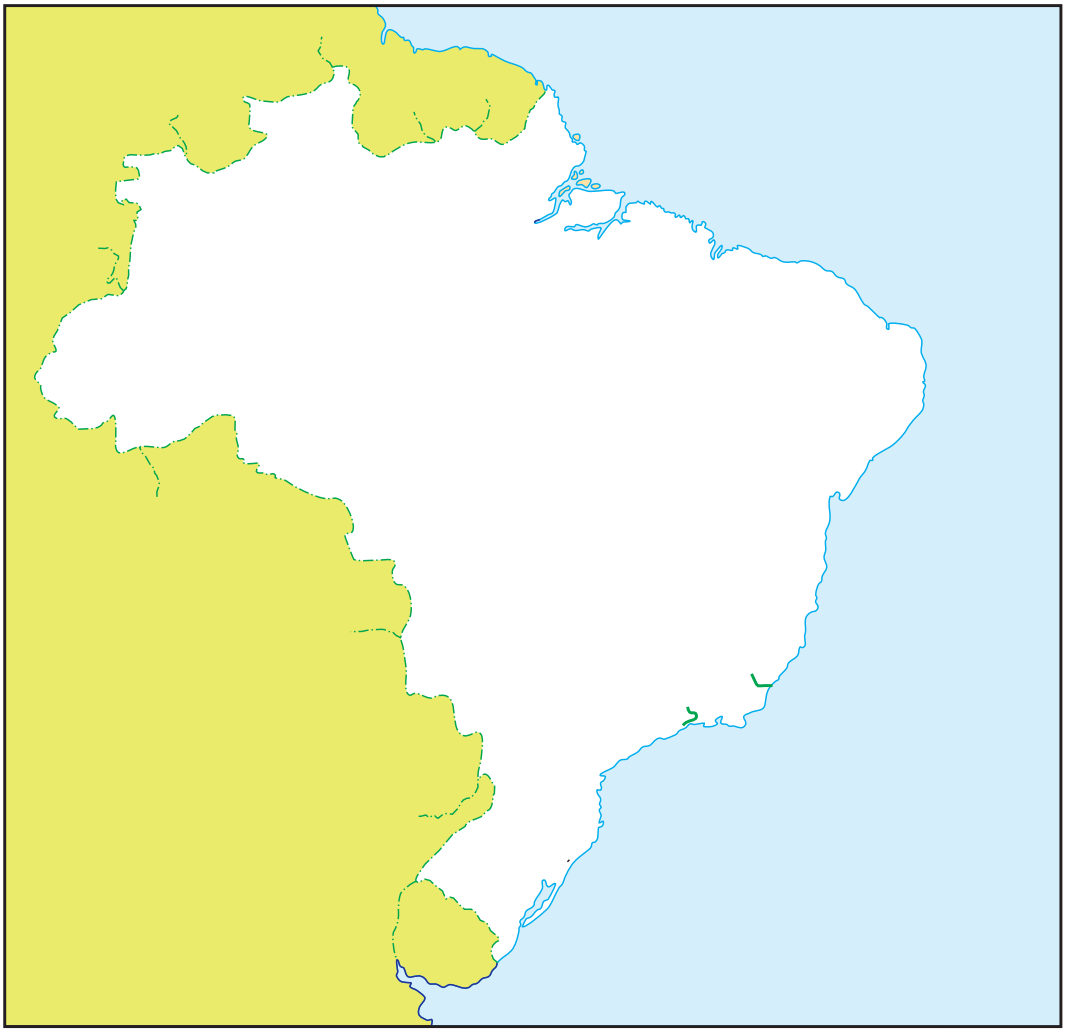
Q. 3. Give reasons:

(a) Per capita land availability is more in Brazil as compared to India

(b) There is mixed economy in Brazil and India.

Q. 4. Study the following graph and analyse in short





SS93HA

9. TOURISM, TRANSPORT AND COMMUNICATION

Tourism :

Try this.

On the basis of the things you know about Brazil, make a list of places in Brazil you would like to visit. Which factors/characteristics of Brazil make it a good tourist place? What types of tourism will be developed here? Discuss with your friends and show the classification.

Answer the questions on the basis of figure 9.1 :

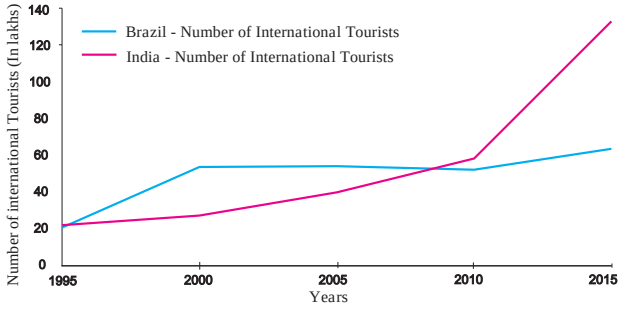


Figure 9.1 : Number of International Tourists

- Which country attracted more international tourists in the year 1995?
- In which country did more international tourists arrive in the year 2000?
- In which year can an increase be seen in the number of international tourists in India?
- What was the number of international tourists in the year 2015 in both the countries? What was the difference between them?
- What could be the reason of increase in tourists in India after the year 2010?

Geographical explanation

Brazil :

Clean, white sand beaches, attractive seacoast, beautiful islands, orchards, deep dense forests of Amazon, various birds and animals attract lots of international tourists here. The new capital city of Brasilia is also a tourist attraction. Cities like Rio-de-Janeiro and Sao Paulo are large cities which attract lots of tourists. Tourism is an important economic activity in several regions in the country. Looking at the sensitivity of the natural resources in Brazil, ecotourism is developing at a faster rate in Brazil.

Can you tell ?

Answer the questions after reading fig 9.2

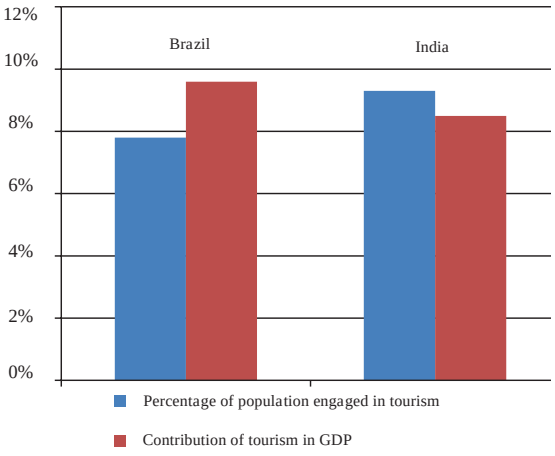


Figure 9.2 : Tourism and economy (2016)

- What type of graph is shown here?
- What does the graph show?
- Which country's tourism has a larger share in the contribution towards GDP?
- Which country has a larger population engaged in tourism sector but contributes lesser in GDP?

Geographical explanation

As shown in figure 9.1, the number of international tourists visiting India in 2015 is more than that of Brazil. Even though this is true, the share of tourism sector in the GDP is less than that of Brazil. Apart from this, the proportion of Indian population engaged in tourism proportion is higher than Brazil. This is primarily dependent on the size of the population of those countries and the size of the GDP. (See figure 9.2). According to this, population of India is more than Brazil and so is its GDP. As

the GDP of India is higher than Brazil and so also its population, therefore, the contribution of tourism to GDP appears lesser than Brazil and population engagement seems higher.

Think about it.

What are the factors responsible for development of these tourism sites in Brazil?

India :

It is seen in figure 9.1 that the number of international tourists in India is constantly growing. But this increase appears to be more after 2010. This increase in the number of international tourists is consistent. Foreign tourists visit India for heritage, adventure, cultural, health and business tourism. Ecotourism is also being given boost in India.

Considering the heritage of India, there are plenty of opportunities for tourism in many parts of the country. Many places are being developed for this.

Some tourism sites of India and Brazil



Figure 9.3 : Gateway of India



Figure 9.4 : Beach at Rio De Janeiro



Figure 9.5 : Brazil - Marine Tourism



Figure 9.6 : Ajanta Caves



Figure 9.7 : Football Stadium at Manaus



Figure : 9.8 : Guwahati, Assam

Make friends with maps !



Figure 9.9

Brazil Transport : Study the transport map of Brazil in Fig 9.3 and answer the following questions:

- Which means of transport are seen on the map
- Which means of transport has a denser network?
- Which highway can be seen prominently? Which places does it join?
- What could be the reason of development of railways in the South-East?
- In which part of Brazil do you see a lesser development of transport network ? What could be the reason?

Geographical explanation

The most common method of transportation is roadways. Roadways account for more than half of transportation system in the country. But the density of road network is concentrated in the eastern part of the country. The forested lands of Amazon River basin and the swampy lands have limited the development of roadways in this part.

Waterways have been developed on a commercial basis in the Amazon River. Boats ply from Equitos in Peru to the mouth of the river. The longest waterways in the world can be navigated through these waterways (around 3700 kms). Another river important for waterways is the south-flowing Parana river. Coastal shipping is also carried out in the coastal areas.

Railways have not developed very well in Brazil. The use of trains for long distance transportation of passengers is restricted to a few urban tourist routes though it is cheaper. The contribution of airways is less in the transportation system of the country.

Think about it.

Considering the development of transport in a place, which factors do you think are responsible for the development of transport in Brazil? Also, think which means of transport could be used in Brazil given its topography and drainage?

India Transport : Look at the transport maps of India given in fig 9.10 and 9.11 and answer the following questions.

- Which means of transport are visible on the map.
- In which part of India is the density of railways more?
- Name five important ports and airports of India.
- Which parts of India have a sparse network of transport? What could be the reason?

Make friends with maps!



Figure 9.10

Make friends with maps!

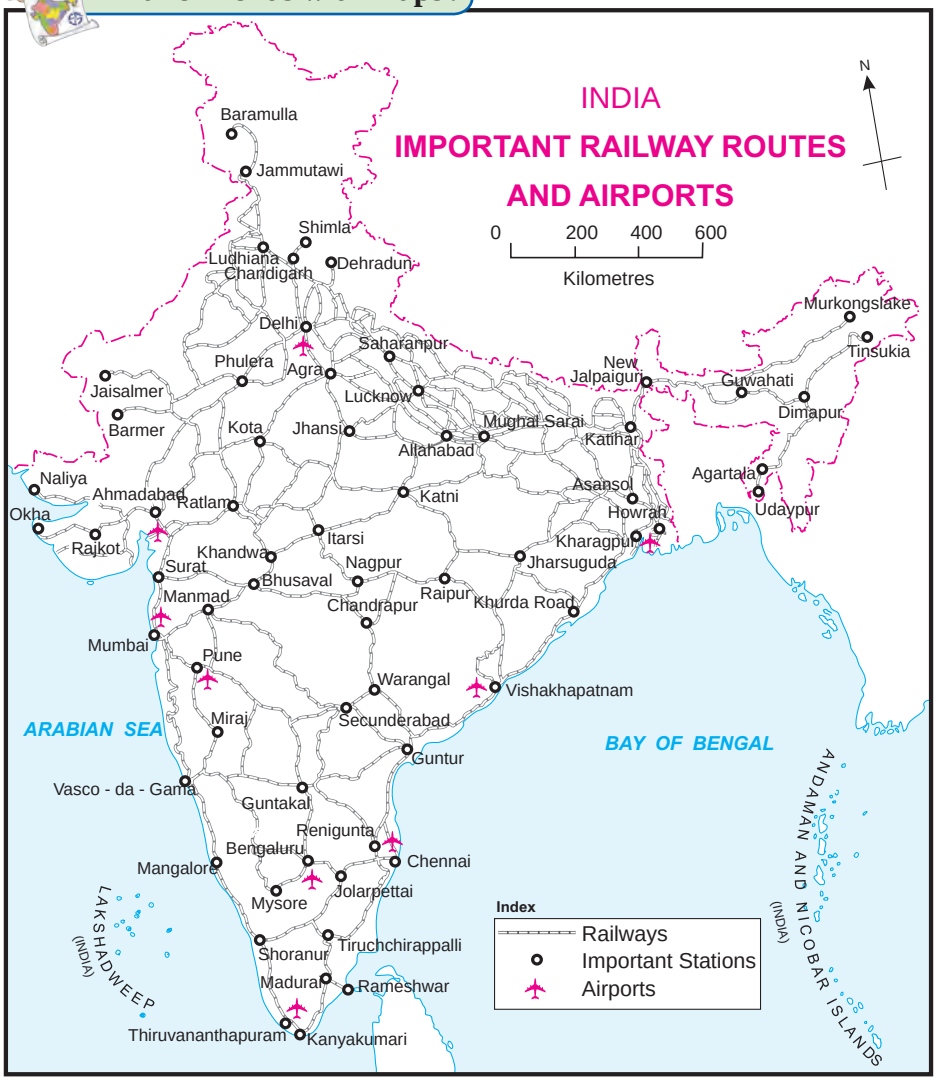


Figure 9.11

Geographical explanation

As compared to Brazil, India has a denser network of transport. About 85 per cent of passenger and 70 per cent of freight traffic are carried by roads every year. Freight and passenger transport has been facilitated due to the development of the railways. Railways are important for the growth of the Indian economy. Railway network is relatively less dense in the hill states, north eastern states, central parts of India and Rajasthan while it is dense in the North Indian Plains,

Railways are very important for a vast country where distances are large.

Waterways are a cheap means of transport. Waterways contribute about 1% to the country's transportation. It comprises rivers, canals, backwaters, creeks, etc.

Approximately 95 per cent of India's foreign trade moves through ocean routes. Apart from international trade, these are also used for the purpose of transportation between the islands and the rest of the country.

As compared to Brazil, airways in India are more developed and the use of internal airways is also increasing.

Always remember –

The development of means of transport is an indicator of rapid progress of a country.

Give it a try.

➢ Arun called his mother from Digboi at 7 am. At what **local** time will his mother pick up his call at Jaisalmer?

Communication in Brazil :

Try this.

You are already aware of the vast longitudinal extent of Brazil. Given are the

westernmost and easternmost extreme points of Brazil mainland in figure 9.12. Calculate the difference in time between the two points in minutes.

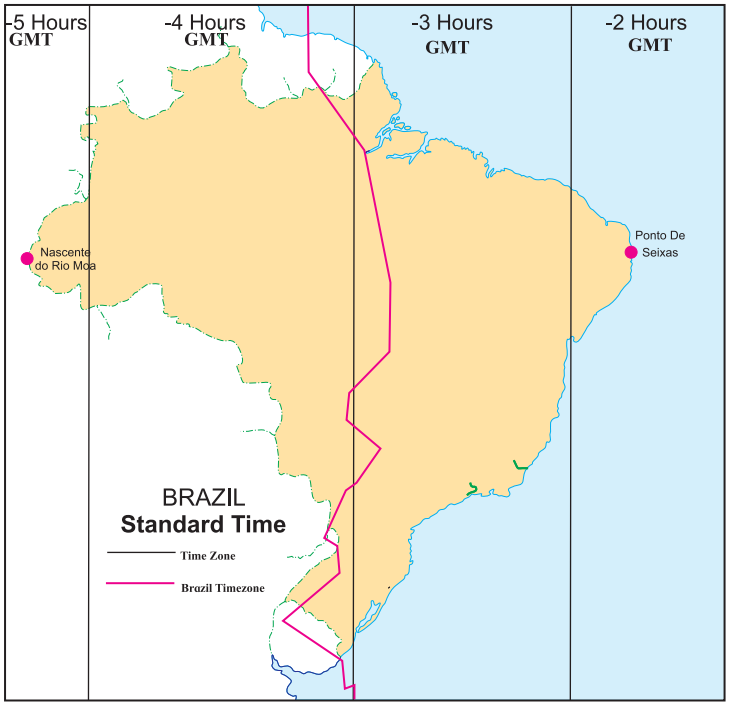


Figure 9.12 : Brazilian Standard Time

Westernmost point: Nascente do Rio Moa (07°32'33" S, 70°59' W)

Easternmost point: Ponta do Seixas, Paraíba (07°09' 28"S, 34°47' W)

Read the above map in the fig 9.12 and answer the following questions:

- How many divisions can you see in the map?
- What do these divisions signify?
- What does the term' behind the GMT ' mean ?
- Which part of Brazil is ahead of the other ?
- By how many minutes is this part ahead of others?
- What does the red line in the map show?

Geographical explanation

You will find that because of the vast longitudinal extent of the country, the difference between two extreme points is around 168 minutes. (2 hours 48 minutes) There are different 'time zones' in the country. Brazil has four time zones .It is behind the GMT by 2, 3, 4 or 5 hours. The red line in the map shows the GMT-03 time zone which is considered to be the official Brazilian time, BRT. It is 3 hours behind GMT.

Development of Communication in Brazil:

Telecommunication services in Brazil are well developed and efficient. This industry includes landlines as well as mobile services, television broadcasting, radio broadcasting, and computer / internet access. Today, more than 45% of the Brazilian population has access to the internet. The telecommunications infrastructure is fairly modern, particularly in central-south Brazil. However, the north and north-west are drastically less developed.

Over recent years, mobile telephones have led the rapid expansion of telecommunication services in Brazil. The nature of Brazilian territory, especially land mass size and the large pockets of unpopulated and densely vegetated areas create significant impediments to the expansion in coverage of telecommunication services.

Brazil is developing technology to send domestically-made satellites into space with its own rockets.

Communication in India :

Study the map given in figure 9.13 and answer the following questions.

- Calculate the difference between the two longitudinal extremes of mainland India. Is it more than Brazil?
- Which longitude in India is called the Indian Standard Time (IST)?
- What is the difference between this time and the GMT?
- How many local times are there in India?

Make friends with maps !

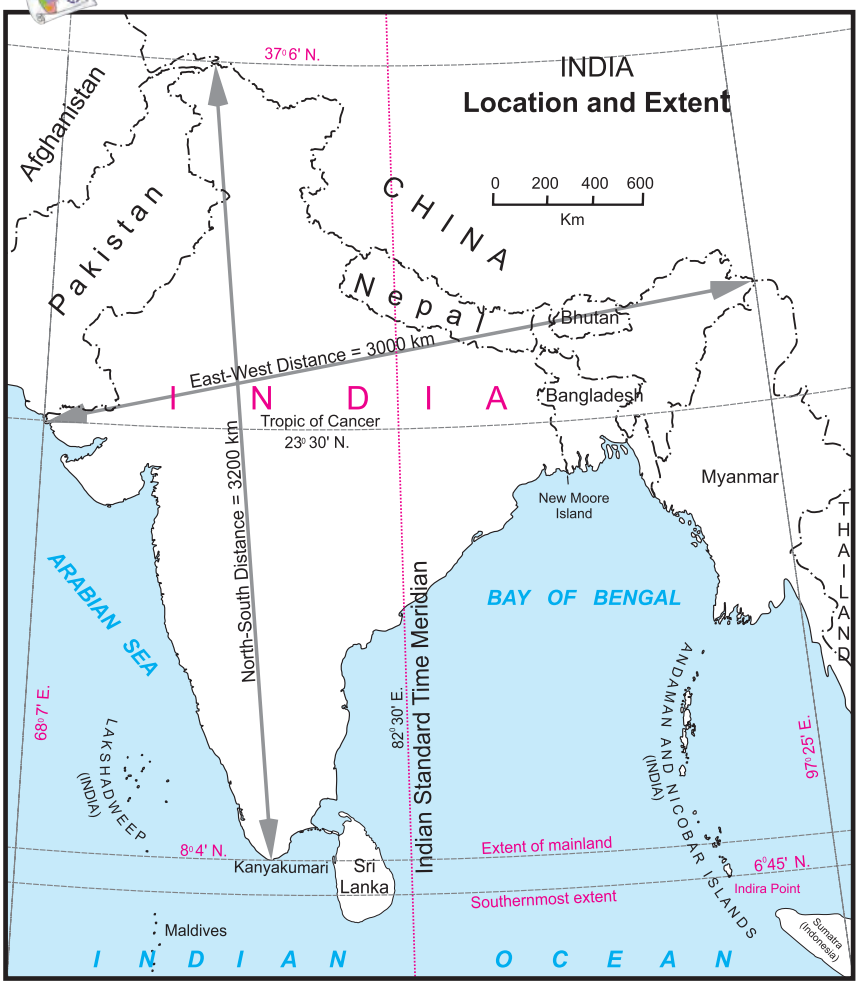


Figure 9.13 : Location and Extent

Geographical explanation

India too has a large longitudinal extent.. The difference between the two extreme most points is 2 hours or 120 minutes. India has only one standard time zone. The 82.5° E longitude is the Indian Standard Time (IST) . It passes through Allahabad. It is ahead by 5 hours 30 minutes from the Greenwich Meridian Time (GMT).

With the explosion of electronic media, telecom industry has become one of the fast growing sectors. In this era of information and communication, more digitally enhanced communication devices like mobile phones, Internet and satellites are paving way to expansion for the wider reach of communication technology.

India is one of the largest users of smartphones and internet. With development of our own satellites, India has come a long way in this field.

Think about it.

- It is 12 noon at Delhi. What would be the local time in Brasilia?

Use your brain power !

Saurabh and Ashwini work for a MNC. Two of their regional head offices are located in Brazil in Rio De Janeiro and Manaus, respectively. Both of them have to contact either of the head offices constantly. As they have to adjust timings according to their head offices, find out their corresponding timings in India, if they work according to office timings in Brazil i.e 10am. to 5 pm

Do you know ?

ISRO (India Space Research Organisation) looks after the space launching programmes of India.

Till date, this institute has established many records in the satellite launch.

The Brazilian Space Agency (AEB) is the civilian authority in Brazil responsible for the country's burgeoning space program. The Brazilian Space Agency has pursued a policy of joint technological development with more advanced space programs.

Initially it relied heavily on the United States but now it is working with China, India, Russia and Ukraine.

Give it a try.

- On what basis will you decide how many standard times should be there in a country?

Exercise

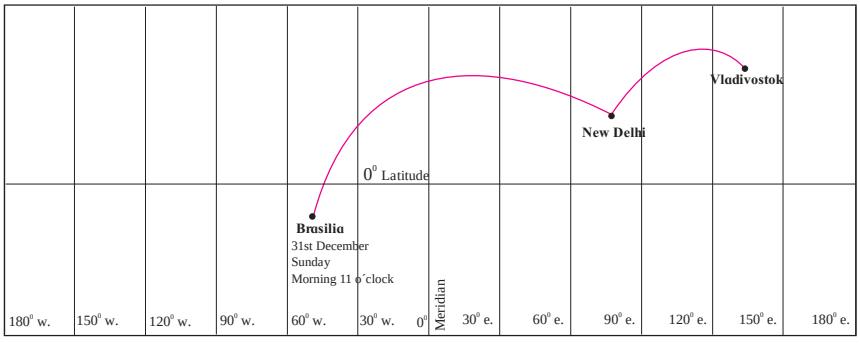
Q. 1. State whether right or wrong with reasons.

(a) The future of tourism is bright in India due to its natural diversity.
(b) Tourism is an invisible trade.
(c) The indicator of development in a country is the development of transport in that country.
(d) Brazil's time is ahead of India's time.
(e) The development of tourism in India has begun recently.

Q. 2. Answer in short

(a) Which factors attract more tourists in Brazil?
(b) What are the difficulties in the development of the railway system in Brazil's internal areas?
(c) Which means of communication has expedited the field of communications?

Q. 3. A plane leaves Brasilia at 11am on 31 December. The plane crosses 0° Meridian and reaches Vladivostok via New Delhi. Tell the local time, date and day at New Delhi and Vladivostok when plane leaves Brasilia.



Q. 4. Match the columns.

'A' Group	'B' Group
(a) Trans-Amazonian	(i) Tourist Place Highway
(b) Road Transport	(ii) Railway Station in India
(c) Rio de Janeiro	(iii) Golden Quadrilateral
(d) Manmad	(iv) Major Highways
	(v) 40° W. Meridian

Q. 5. Give geographical reasons.

(a) Eco-tourism is being developed more in Brazil.
(b) The waterways are not developed in Brazil.
(c) A dense network of railways has developed in the north Indian plains.
(d) Development of transport is important for country's progress.
(e) We rely on the sea route for international trade.

Q. 6. Differentiate between.

(a) Water transport in the Amazon and the Ganga river.
(b) Communication in Brazil and India
(c) IST and BRT

Q. 7. Write notes on.

(a) Modern means of communication
(b) Air transport in India
(c) Correlation between physiographic and internal waterways
(d) Importance of Standard Time

Activity :

Visit a harbour/airport/ communication centre and write down its information.

SSHYIX

Flora and Founa of India and Brazil



The Gangetic Dolphin



Rubber



Khair



Pink Dolphin in Amazon



Aloe vera



Nilgiri (Eucalyptus)



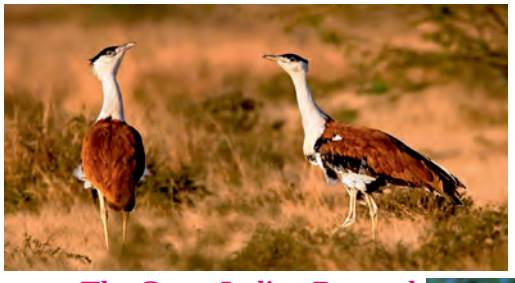
Piranha



One-Horned Rhino



Nilgiri Tahr



The Great Indian Bustard



Mahogany



Century Plant



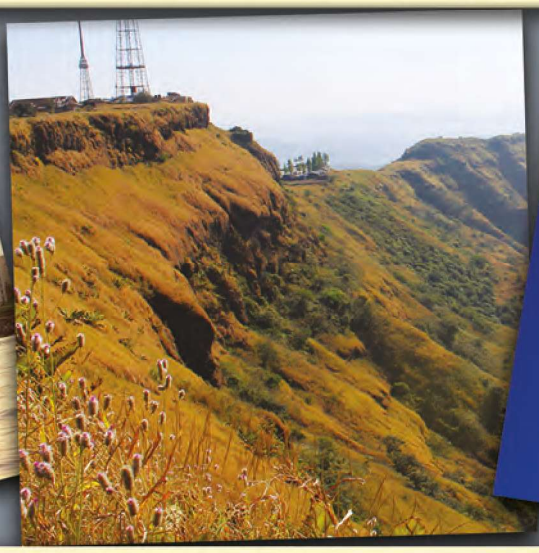
Condor



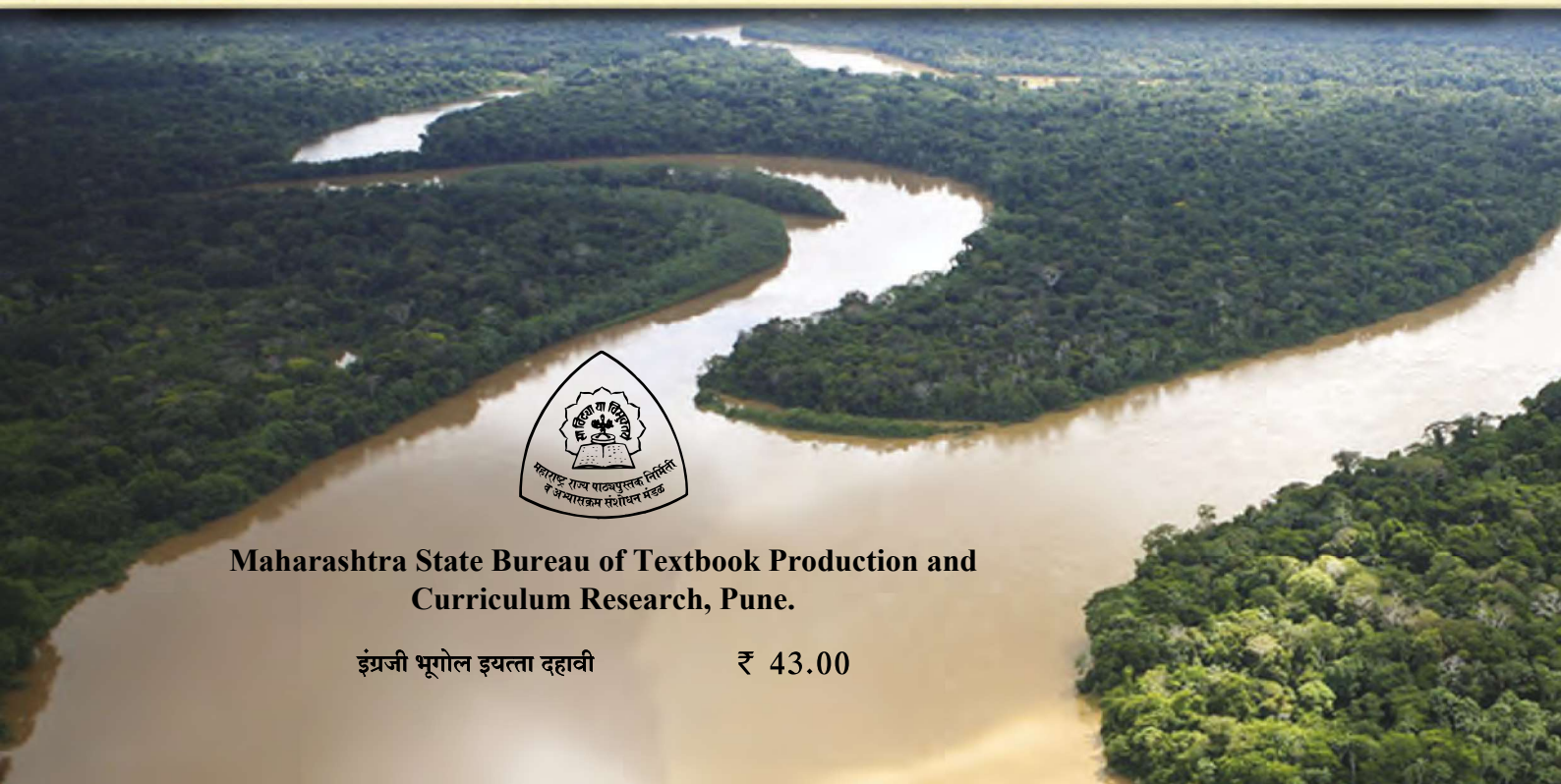
Golden Lion Tamarin











Maharashtra State Bureau of Textbook Production and Curriculum Research, Pune.

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